JANUARY 17, 1955

\$750 Prize Essay Contest . . . p. 15

RAILWAY AGE

One of Five Simmons-Boardman Railway Publications

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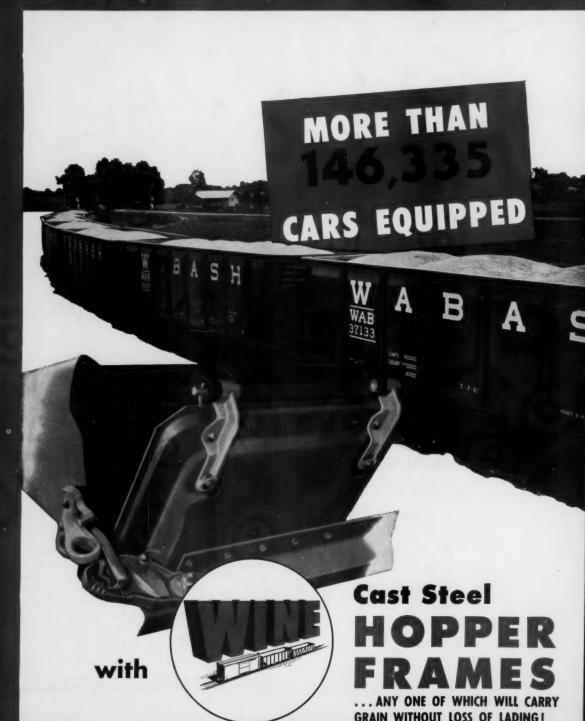
N&W Turbine Locomptive Tests

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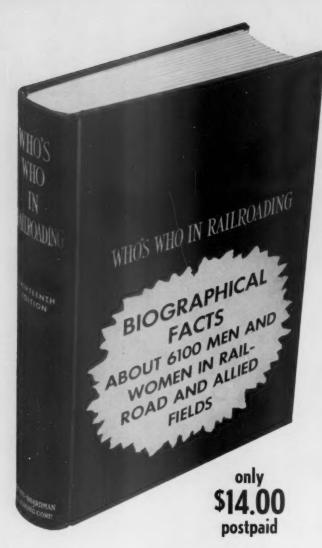
Tunnel Through Unstable Fill

Revenue and Expense Tables

Rail-Truck
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● The far-flung Missouri-Pacific System, with its 12,947 miles of track, is a 100% user of pressure-creosoted ties, and has been since 1920. The reason lies in the service record that pressure-creosoted ties have compiled for this road: 22.7 years of average life, based on renewals during the five year period from 1944 through 1953.

This average was compiled in areas where the annual rainfall is in

excess of 40 inches. And the gross ton miles per mile of main track is 4.96 million annually. The presence of these factors, together with everpresent problem of plate cutting, make the 22.7-year average highly satisfactory.

Throughout the Missouri-Pacific System, there are 37,443,000 pressure-creosoted ties in track. In 1954, the estimated replacement was 1,283,000 ties.

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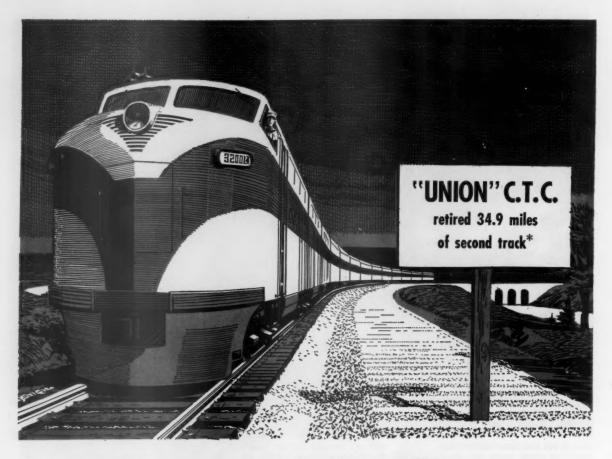
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- 2. 27.81 miles of second main track were retired and 7.13 miles were converted to sidings.
- Retired a substantial investment in grading for additional second main track where track had never been laid.
- 4. Retirements consisting principally of 28 miles of track and grading amounted to a gross credit to capital account of \$1,085,389.00 or a net credit of \$464,886.00 for the entire project.

*Factual data will be supplied on request.

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January 17, 1955

Vol. 138, No. 3

Week at a Glance

The possibility of early presentation to Congress of some kind of transportation legislation seems to have been strengthened by President Eisenhower's "state-of-the-union" message.

"We didn't know you cared," is an obvious reaction of railroaders to the ruckus which broke in New England when it became known that interests friendly to President McGinnis of the New Haven had quietly bought a controlling interest in the Boston & Maine. Considering the relatively great decline in patronage of railroads by New Englanders and the scantiness of their freight offerings, hysterical banner headlines about a rumored merger of the two roads seem overdone.

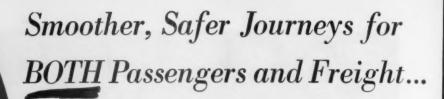
FORUM—Another prize contest—\$500 to the winner and \$250 to the runner-up for the best essays on: "Traditional Differentials in Railway Rates—Should They and Can They Be Maintained Under Rivalry from Contract and Private Transportation?"

N&W steam turbine locomotive tests are showing promising results including fuel savings up to 30 per cent and 13 per cent greater load haulage.

ACL's crossing hazards are reduced by using reflective lettering and marking on all rolling stock with the exception of passenger cars. Station signs, whistle and mile posts, and all switch markings have been reflectorized too.

ICC advises merger studies to determine "the benefits which consolidations might confer," in its 131-page 68th annual report to Congress.

Tunnel through unstable fill — three 7-ft tubes — installed on the Canadian National when an existing waterway proved inadequate to handle the water flow.

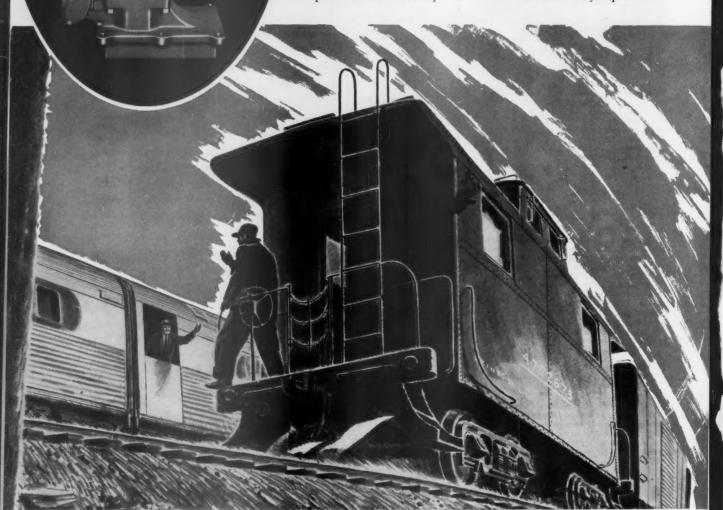


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By combining various interchangeable sections, almost any desired combination of functions can be provided. Final assembly can be completed at any time during locomotive manufacture. And substitutions can be made after units are in service, should a change in assignment make this desirable.

Top efficiency and maximum safety in today's main-line operations calls for a brake that's designed for the job . . . and big enough for the job. You'll find the Westinghouse 24-RL meets every requirement.



* Westinghouse Air Brake

Brakes are Basic to Railroad Progress

Current Statistics

Operating revenues, eleven month	
1954\$1	
1953	
Operating expenses, eleven month	
1954\$6	
1953	,438,438,928
Taxes, eleven months	
1954\$	821,549,247
1953 1	,162,856,463
Net railway operating income, ele	even months
1954\$	765,606,661
1953 1	,031,517,291
Net income, estimated, eleven mor	nths
1954\$	547,000,000
1953	799,000,000
Average price railroad stocks	
January 11, 1955	85.91
January 12, 1954	58.40
Carloadings, revenue freight	
One week, 1955	529,452
One week, 1954	477,805
Average daily freight car surplus	
January 8, 1955	76,116
January 9, 1954	140,759
Average daily freight car shortage	
January 8, 1955	84
January 8, 1955 January 9, 1954	135
Freight cars on order	
December 1, 1954	14,805
December 1, 1953	31,869
Freight cars delivered	- 1,
November 1954	1,302
November 1953	6,137
Average number railroad employe	
Mid-November 1954	1,035,382
Mid-November 1953	1,188,024
	.,,

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Week at a glance CONTINUED

BRIEFS

- Defense Transport Administration "will lock up shop and cease to exist as a separate agency next June," DTA Administrator Owen Clarke said last week. Mr. Clarke, who is also a member of the ICC, explained that this could be done ("unless the cold war blossoms into a hot war") because the commission has agreed to carry forward important DTA programs.
- "Fullest cooperation was received from the railroads, the major carriers of the mails," said Postmaster General Summerfield in reporting that the record-breaking volume of Christmas-season mail was handled "expeditiously and economically." The volume was up 2% from a year ago, the previous high.
- The New York Central, like the Lackawanna (Railway Age, December 20, 1954, page 5) has taken action to abolish the 10¢ plus charge for pickup and delivery of lcl. This change also applies to the Pittsburgh & Lake Erie and the Louisville & Jeffersonville Bridge.
- "Piggyback is just one step toward integration of the country's two leading forms of land transportation. It will lead to free and complete interchange by truck and rail. . . ," says M. E. Holt, president of Interstate Dispatch, Inc., writing in the January issue of our affiliated publication, Railway Freight Traffic.
- 100th anniversary of completion of the Panama Railroad across the isthmus will be marked by a 3-cent commemorative postage stamp to be issued early this year by the Canal Zone government.
- U.S.-built passenger cars may replace the Swiss equipment now used by the National of Mexico on its Nuevo Laredo-Mexico City "Aztec Eagles." Passengers reportedly have been complaining about the Swiss cars' lack of stability since the equipment was placed in service. Only the Swiss observation cars will be retained on the trains.

President Has Transport in Mind

Tells Congress in state-of-union message that he will call for correction of "such policy deficiencies as we find"

President Eisenhower's state-of-theunion message devoted a paragraph to the work of his Cabinet Committee on Transport Policy and Organization, saying that legislation would be recommended "to correct such policy deficiencies as we find."

The message was delivered January 6 to the new Congress, which had convened on the previous day. The paragraph on the work of the transport committee followed one in which the President said he would send up on January 27 a special message outlining his highway program. It said:

"In further recognition of the importance of transportation to our economic strength and security, the administration, through a cabinet committee, is thoroughly examining existing federal transportation policies to determine their effect on the adequacy of transportation services. This is the first such comprehensive review ever undertaken directly by the executive branch of the government in modern times. We are not only examining major problems facing the various modes of transport; we are also studying closely the interrelationships of civilian and governmental requirements for transportation."

No Report Yet—No report of the cabinet committee had been made public when this issue went to press. Meanwhile, the White House on January 11 released the report of the President's Advisory Committee on a National Highway Program. In preparing his special highway message, the President said, he has been aided by the findings of that committee, which recommended expenditures of \$101 billion on highways over the next 10 years.

Public Works—The President also announced in his state-of-the-union message that he would request funds to establish an Office of Coordinator of Public Works in the Executive Office of the President. This set-up would be designed to effect better coordination of federal, state and local works programs.

Other recommendations of the message were that there be no further cuts in excise taxes and that corporate income taxes, too, be left at their present levels; that the Defense Production Act and Title II of the First War Powers Act of 1941 be extended another two years; and that the minimum wage be increased to 90¢ per hour.

Economic Outlook — The President called the economic outlook "good." He went on to say that "if we, as a people, act wisely, our annual national output can rise within a decade from its present level of about \$360 billion to \$500 billion, measured in dollars of stable purchasing power."

The President added that his budget message of January 17, and "several" special messages, "will set forth in detail programs to foster the growth of our economy. . . ."

Liberal Spotting Rules Approved

ICC sanctions terminal service tariff provision agreed upon by railroad—NIT League committee

The Interstate Commerce Commission has approved the car-spotting rules that were agreed upon by a committee representing Official-territory railroads and the National Industrial Traffic League.

The rules, which will give the railroads more freedom to perform spotting services without charge in addition to line-haul rates, were added as a note to the joint agency tariff covering spotting services in Official territory. The tariff, effective since January 1, 1946, was designed to bring spotting services of the participating railroads in line with principles set out by the commission in the terminalservice phase of its Ex Parte 104 investigation of railroad practices.

The new note's text, as approved by the commission, will be that suggested by the railroad-NITL committee, except that the reference to "common carrier" in rule 5 will be made "common carrier by rail."

Also, in approving rule 1, the commission stipulated that the demurrage rules should "plainly provide that the time consumed in such temporary holding will be included in the aggregate detention chargeable" to the patrons involved. Thus the new rules, which specify delays permitted without charge in addition to the line-haul rates, will list the following:

(1) The temporary holding of cars on

(1) The temporary holding of cars on tracks of the carrier or industry for instructions from the shipper or receiver.

tions from the shipper or receiver.

(2) The removal and replacement of cars partially loaded or unloaded when incident to the placement or removal of other cars.

(3) The service of securing the weight of freight, irrespective of ownership of the scales used, where the weights obtained are used by the carrier for billing prosess.

(4) Classifying, sorting and lining up cars on industry or carrier tracks.
(5) Delay and interruption resulting from the operation of a common carrier by rail on industry tracks.

(6) Operations performed in providing a service for which a separate charge is authorized pursuant to a published tariff.

Examiner Was Tougher—In ac-

Examiner Was Tougher—In accepting the railroad-NITL proposal, the commission rejected the recommendations of Examiner Walter D. Mc Cloud's report in the case, which was No. 30556. The examiner proposed modifications of the toughening-up variety (Railway Age, July 12, 1954, page 9). As to its liberal attitude, the commission had this to say:

When the Ex Parte 104 principles were first announced in May 1935, motor carriers were not subject to our regulation. No counterpart of those principles has been invoked, or is indicated to be needed, against the motor carriers. With the regulation of motor carriers and their increasing importance in the highly-competitive field of transportation, it has become evident that some of the interpretations placed upon those principles are unnecessarily restrictive in the light of the competitive needs of the rail carriers and in order that they may furnish the complete transportation service which the act contemplates.

Separate expressions came from Commissioners Alldredge, Freas and Johnson, the former two "dissenting in part" and the latter "dissenting." They objected principally to the involvement of demurrage rules with the delays contemplated by rule 1.

Congress Asked to Make Post Office Pay Own Way

President Eisenhower has recommended to Congress that it take steps to put the Post Office Department on a "self-supporting" basis.

To achieve this he would have the

legislators:
Enact an interim rate bill to provide immediate revenue to meet proposed pay increases and reduce the postal deficit.

Establish a "permanent commission authorized to prescribe postal-rate adjust-

ments" to give the department "needed flexibility" to meet fluctuating costs.

Separate postal costs to be paid by actual users of the mails from those (such as services for the blind) which should be financed by general taxation.

In his message to Congress the President called for increases in first, second and third-class mails but left it

to the Postmaster General to recommend exact rate levels. He said there is an "urgent need" to increase the first-class rates and said the Postmaster General will recommend a "twostep increase" in the second-class rates to allow publishers time to adjust to the changes.

Financial

"No Quick Merger" for NH-B&M

Must await "credit restoration," says McGinnis, who also proposes stock dividends, 78-ft rail, for New Haven

Any consolidation of the Boston & Maine and the New York, New Haven & Hartford must wait until the two roads are financially sound and have their "credit restored," in the opinion of Patrick B. McGinnis. That will require at least two years for the B&M, the New Haven president said in Boston January 7, following what was described as a "friendly discussion" with Massachusetts Governor Christian A. Herter and the state's attorney general, George Fingold, both of whom had previously indicated they would oppose the rumored merger (Railway Age, January 3, page 11).

B&M Holders Named—At the

B&M Holders Named—At the same time, Mr. McGinnis revealed the identity of the men who are reported to have purchased in recent months approximately 350,000 of the B&M's

822,379 outstanding shares of preferred and common stock.

They are Oliver D. Appleton, Mt. Kisco, N.Y., partner in the New York Stock Exchange firm of Cyrus J. Lawrence & Sons; E. Carroll Stollenwerck, Greenwich, Conn., partner in Laird & Co., another stock exchange firm; and Robert J. Marony, Norwalk, Conn., who retired in 1950 as vice-president and New York fiscal officer of the Milwaukee

The three men, Mr. McGinnis told the Massachusetts officials, are "not connected in any way with the New Haven"; but, he added, "if anybody alleges that because they are friends of mine, I will have influence over the B&M, they are correct."

Their combined holdings—plus some 30,000 shares owned by James A.



ROUNDING THE SHARPEST CURVE it will encounter, a new truck device on this 1,600-hp diesel-electric locomotive is put through its paces on special curved meter-gage track at the General Electric Company's Locomo-

tive and Car Equipment plant at Erie, Pa. The electronic device is being used to check the forces of the wheels against the outer rail of the curved track. The locomotive is destined for shipment overseas.

NE GOVERNORS VOTE TO APPOINT COMMITTEE

Governors of the six New England states, meeting at Boston January 12, voted to appoint a committee "to study all regional transportation problems"—by rail, air and water. The 18-member group, to be known as the New England Governors Committee on Public Transportation, will include three representatives from each state.

While the governors were meeting, the Massachusetts state senate killed a proposal to "investigate" the rumored New Haven-B&M merger, talk of which led to creation of the governors committee.

Walsh, of Greenwich, a director of Lodge & Shipley Co., Ohio machine tool manufacturers, who has announced that he would join Mr. McGinnis' friends in any effort they may make to obtain control of the B&M—add up to approximately 45% of all outstanding B&M stock. Mr. McGinnis himself has said that additional stock, "on which I could put my hands," would be sufficient to enable the group to take over control of the northern New England carrier "peaceably and without a proxy fight." He added, however, that there would be "no changes in the top echelon of the B&M" before its annual meeting next April.

B&M reaction to the McGinnis statement indicated, on the other hand, that a proxy fight might develop; the road's executive committee, following a January 11 meeting, announced that it would present at the April meeting "a slate of directors . . . favorable to the present management, in the main consisting of the present 18 members of the board." The committee also indicated that less than 90,000 B&M shares could be traced on the company's own records to associates of the New Haven president, though it recognized the possibility that other shares may be held by them in the names of brokerage firms.

New Haven—At Boston also, Mr. McGinnis discounted the possibility of another proxy fight on the New Haven itself, although former President Frederic C. Dumaine, Jr., whom Mr. McGinnis defeated for reelection at the 1954 meeting, has recently been sharply critical of the McGinnis group's management of the road.

At their annual meeting in April, New Haven stockholders will be asked to vote on a proposal to reduce from two-thirds to a simple majority the required number of New England-resident directors on the road's 21-man board.

Stock Dividend — At his Boston press conference, Mr. McGinnis said he plans to recommend to New Haven directors at their next meeting the declaration of a 10% stock dividend on the company's common stock, now

that dividends on its preferred stock have been put on a current basis (Railway Age, November 22, 1954, page 36). The stock dividend, which would be in lieu of cash, would be paid semiannually, 5% in April and 5% in October, he explained.

78-Ft Rail—He also revealed that

78-Ft Rail—He also revealed that the New Haven is considering purchase of 20,000 tons of main-line rail in 78-ft lengths.

Misquoted on Mergers — Meanwhile, the New Haven's public relations department has clarified a recent statement by Mr. McGinnis, which was widely—but, the department says, mistakenly—interpreted as meaning that he is interested in having the New Haven take a leading role in a general merger of as many as 37 eastern railroads. His views, the department explains, are simply that eastern railroads as a group, "must look to mergers and consolidations" as their best source of new economies and of added efficiency, They were not intended to imply any interest in any specific consolidation plans.

Court Denies Alleghany Plea in WP Stock Suit

The U. S. Supreme Court has rejected an appeal by Alleghany Corporation to review a lower court ruling that a proposed purchase by Alleghany of possibly controlling shares of the Western Pacific was illegal.

Alleghany, in February 1951, assertedly entered a contract with an agent of the James Foundation of New York, Inc., to purchase 153,165 shares of WP common and 55,725 shares of WP preferred. The foundation would not deliver the stock and Alleghany brought suit in U. S. District Court, southern district of New York.

This court rules the offer of sale was invalid because it was made by the foundation's agent without authority. The U. S. Court of Appeals for the Second Circuit upheld this ruling, but on the ground that the sale would violate the Interstate Commerce Act in that it would give Alleghany control of the WP without authority from the Interstate Commerce Commission.

In its brief to the Supreme Court, Alleghany argued that the sale would not have entailed control of the road because the stock would "immediately" have been placed with a voting trustee. However, in its opinion the circuit court reported that Robert R. Young, Alleghany chairman, had testified that he wanted to buy "control" of the WP and that this purchase "was moving in the direction of a transcontinental system" on which "I had always set my heart."

New Orleans Public Belt.—Operating Agreements.—Division 4 has approved modifications of contracts whereby this company handles cars moving in interchange across the Mississippi river at New Orleans for the Texas & New Orleans, the Texas &

Pacific, the Missouri Pacific and the Texas Pacific-Missouri Pacific Terminal (Railway Age, August 16, page 14). Included in these modifications are compensation agreements for services performed by the Public Belt,

Pennsylvania.—Moves to Cut N.J. Taxes.—Removal of two miles of one of the two main tracks from Princeton Junction, N.J., to Princeton, and of almost three miles of yard track at the latter point, "should materially cut the \$10,000 bill for taxes which we pay each year to the state covering our Princeton branch property," said Park M. Roeper, superintendent of the PRR's New York division, in announcing the projected change. The 15 acres of land now occupied by the yard tracks will be returned to the trustees of Princeton University.

Removal of the tracks is part of a PRR program in New Jersey to effect tax and other economies wherever possible without impairing its service to the public.

Figures of the Week

October Accidents

The Interstate Commerce Commission has released its Bureau of Transport Economics and Statistics' preliminary summary of railroad accidents for October and the first 10 months of 1954. The compilation, subject to revision, follows:

ject to revision, i	Mont	h of ber	10 mc ended Oct	with
Item	1954	1953	1954	1953
Number of train accidents*			6,238	
resulting in casualties	49	47	387	451
Number of casualties in train, train-service and nontrain acci- dents:				
Trespassers: Killed	75 70	80 77	732 765	852 843
dents* Killed Injured (b) In train-service	85	79	389	20 515
Killed Injured Travelers not on	150	3 159	1,468	1,508
trains: Killed Injured Employees on duty:	51	85	3 659	691
Killed	23 1,469	27 1,624	171 13,554	252 16,351
passers:** Killed Injured Total—All classes of	143 452	151 533	1,128	1,286 4,395
persons: Killed Injured	242	261 2,557	2,050 20,846	2,435 24,303
* Train accidents (morments) are distinguish cidents by the fact the age of \$350 or more mines part of the	ed from	offision om tro former	s and in-servi caused property	derail- ice ac- d dam- , Only

ments) are distinguished from train-service accidents by the fact that the former caused damage of \$350 or more to railway property. Only a minor part of the total accidents result in casualties to persons, as noted above. ** Casualties to "Other nontrespassers" happen chiefly of highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Freight Car Loadings

Loadings of revenue freight in the week ended January 8 totaled 602,203 cars, the Association of American Railroads announced on January 13. This was an increase of 72,751 cars, or 13.7%, compared with the previous holiday week; a decrease of 22,026 cars, or 3.5%, compared with the corresponding week last year; and a decrease of 85,907 cars, or 12.5%, compared with the equivalent 1953 week.

Loadings of revenue freight for the week ended January 1 totaled 529,452 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS For the week ended Saturday, January rict 1955 1954

District	1955	1954	1953
Eastern	94,998 102,573	86,186 96,395	101,001 123,105
Pocahontas	42,679 95,092	36 056 83,669	41,204 99,675
Northwestern	59,323	51,919	58,598
Central Western	91,454	82,944	93,179
Southwestern	43,333	40,636	46,195
Total Western Districts	194,110	175,499	197,972
Districts	174,110	173,477	177,772
Total All Roads	529,452	477 805	562,957
Commodities:			
Grain and grain products	36,667	30,825	35,507
Livestock	5,688	5,530	6,567
Cool	108,146	97,001	108,037
Coke	9,364	9.834	15,320
Forest products .	29,523	22,368	28,350
Ore	14,429	14 561	17,050
Merchandise I.c.I.	52,484	44,845	52,177
Miscellaneous .	273,151	252,841	299,949
January 1	529,452	477,805	562,957

In Canada—Carloadings for the seven-day period ended December 2, 954, totaled 68,513 cars, compared with 71,296 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

Table 6 Count		Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada December 21.	1954	68,513	29,880
December 21,		68,765	25,875
Cumulative Totals			
December 21,	1954	3,607,172	1,387,509
December 21,	1953	3 908,998	1,580,963

Rates & Fares

Midwest Grain Rates Are Held Reasonable

The Interstate Commerce Commission has ruled that, with some exceptions related to shipments from Iowa, the railroads' rates on grain and grain products from Missouri, Kansas, Nebraska, South Dakota, Minnesota and Iowa to Chicago and Peoria are reasonable and lawful.

Docketed as No. 30989, Board of Trade of Chicago vs. Atchison, Topeka & Santa Fe, et al, the case involved complaints that rates from those states were prejudicial to dealers at Chicago and Peoria and preferential of other dealers, at other locations.

dealers at other locations.

The commission found that there had been "no indication that the rates assailed have had an adverse effect upon the movement of the traffic, "not-

ing that receipts of grain from all sources at Chicago in 1951 "equalled substantially the receipts at Sioux City, Omaha, St. Joseph and Kansas City combined." The commission added that competing grain markets that intervened urged that a rate reduction

would require comparable reductions in their rates.

The commission found, however, that the rates from certain points within Iowa were prejudicial to other points where competing grain elevators are located. to "offset" the cancellation. The surcharge has been in effect since May 1952.

Commissioner Arpaia, arguing that "we should not be governed by the dead hand of the past," said the commission might be likened to the author of the following verse if departure from tradition were the only reason for the cancellation:

"I do not like thee, Doctor Fell; The reason why I cannot tell; But this I know, and know full well, I do not like thee, Doctor Fell!"

Commissioners Freas and Cross also dissented in part, the former on much the same basis as Mr. Arpaia, who would have continued the surcharge. The cancellation and rate increases, along with an approved boost in the minimum charge per shipment from \$2 to \$3, are to be effective March 15. The rate increases are 23% on shipments under 2,000 lb and 7½% on those over 2,000 but under 5,000 lb.

Public Relations

Rails, Trucks Form "Policy Group"

"Council of Eastern Rail and Truck Common Carriers" will study mutual problems in effort to "reconcile differences" between "two arms of one industry"

Eastern railroads, and a number of the larger common carrier truck lines operating in the same general territory, have jointly organized a policy board, the "Council of Eastern Rail and Truck Common Carriers," to study their common problems and to try to reconcile differences between them. Formation of the new board is an outgrowth of discussions held over the past several months between eastern railroad and trucking executives.

Objectives of the council were outlined in a statement issued jointly by Walter J. Tuohy, president of the Chesapeake & Ohio, and D. L. Sutherland, chairman of the Middle Atlantic Transfer Company, who are also chairman and co-chairman, respectively, of the new group. They said, in part:

"Common carriage is the only method of transportation on which the entire country relies, Need for a strong common carrier industry, therefore, is imperatve in the public interest.

"These two principal branches of the transportation industry will endeavor to cooperate and to assist the President and the government in furthering the objectives of a sound national transportation system.

"Cooperation between what are, essentially, two arms of one great industry is vital to the American public. Neither railroads nor highway carriers alone, can serve the whole needs of the nation."... It is essential to both carriers that their services be at maximum efficiency in order to meet the needs of a prosperous nation and to insure adequate national security.

"In sitting down to try to reconcile any issues between railroads and highway carriers which might impede the best public service by either one, we believe we are responding to the desires of the President, cabinet members, and high state and federal officials, including members of the Interstate Commerce Commisson."

Railroad members of the new council, beside Mr. Tuohy, are Presidents Paul W. Johnston, Erie; Patrick B. McGinnis, New Haven; A. E. Perlman, New York Central; Howard E. Simpson, Baltimore & Ohio; T. G. Sughrue, Boston & Maine; and James M. Symes, Pennsylvania.

Highway carrier members, in addition to Mr. Sutherland, are Robert E. Cooper, Jr., president, Cooper-Jarrett, Inc.; Simon Fisher, president, Spector Motor Service, Inc.; Harry L. Gormley, president, Keystone Lawrence Transfer Company; James K. McLean, executive vice-president, McLean Trucking Company; Carroll J. Rousch, president, Roadway Express; and Louis Schram, Jr., president, Allied Van Lines.

Designation of these men as members of CERT was voted by their respective organizations, the Eastern Railroad Presidents Conference, and the Eastern Highway Transport Conference, a similar organization of highway common carriers. David I. Mackie, chairman of ERPC, was elected an exofficio member of the council, as was David B. Charnay, chairman of the board and president of Allied Industrial Research Consultants, Inc., public relations counsel for EHTC.

Competitive Transport

Arpaia Rhymes Dissent To Truck Surcharge Veto

Despite a poetic dissent by Commissioner Arpaia, the Interstate Commerce Commission has cancelled a \$1.50 surcharge on truck shipments of 5,000 lb and less in Central States territory.

The surcharge "unduly disrupts the class-rate structure," the commission held, and constitutes "a radical" departure from "traditional systems of freight classifications and rate-making."

Nevertheless, the commission also held that, "despite the 10% increase" of last April, the truckers affected "cannot withstand a substantial reduction in their revenues," and authorized percentage increases over 1952 rates

10-Year, \$101-Billion Highway Plan Proposed

Expenditure of \$101 billion on highways over the next 10 years has been recommended by President Eisenhower's Advisory Committee on a National Highway Program. That would mean spending \$54 billion more than would be involved if the present level of spending were continued for the decade.

The committee is headed by Lucius D. Clay, and its report was made public at the White House January 11. President Eisenhower has announced that



GEOLOGISTS AND GEOGRAPHERS of the University of Idaho, who recently led 220 of the school's students on a geological field trip between Moseow, Idaho, and Orofino, along the Northern Pacific and Camas Prairie. The five-car special, hauled by an NP diesel, made four stops to permit investigation of geological features.

he plans to send a highway message to

Congress on January 27.

The committee's general finding was that the present highway system is "inadequate for both current and future needs." The \$101 billion program recommended is the estimated "needs" of the next 10 years, including "completion to modern standards of the 37,600 miles of the presently designated National System of Interstate Highways."

Interstate Network—The work on the interstate network would cost about \$27 billion, and the committee's recommendation is that state and local participation be only \$2 billion. As to other phases of the program, it would put the federal share at about 30%.

The committee saw no reason why toll roads should not be included in the interstate system, but it also said that "toll financing is not a satisfactory solution to the full problem of

network modernization."

Another recommendation was that the federal share of interstate construction be financed by bonds to be issued by a Federal Highway Corporation created by Congress for that purpose. The corporation would receive annually from the Treasury, as authorized by Congress, amounts sufficient to meet its obligations the report said

meet its obligations, the report said.

"It is estimated." it added, "that these amounts plus those proposed herein for continued allocations to the other federal-aid highway programs, will be approximately equivalent to . . . receipts from federal taxes on gasoline and lubricating oils."

Piggyback

Erie, CNR, Expand Their "Piggyback" Services

More than 20 New Jersey communities have been added to the area served by the Erie's "piggyback" freight service. These additional territories in which industries now can ship and receive freight by highway trailers on railroad flat cars to and from the Chicago area include Belleville, Belwood Park, Bloomfield, Clifton, Dundee, Englewood, Fair Lawn, Garfield, Glen Ridge, Haledon, North Bergen, Nutley, Orange, East Orange, West Orange, Passaic, Paterson, Prospect Park, Rutherford, East Rutherford, Secaucus and Wallington.

Canadian National—The CNR has added 16 new highway trailers and equipped eight additional flat cars for its two-year-old Montreal-Toronto-Hamilton operation, raising its equipment total to 44 trailers and 22 cars. New ramp facilities have been built in the Bonaventure freight terminal at Montreal, doubling the capacity of the original runways for handling trailers on and off flat cars.

Equipment & Supplies

FREIGHT CARS

Chicago Firm Will Buy, Lease Back Freight Cars

A new plan for purchase and leaseback of freight cars has been announced by the Chicago Freight Car

& Parts Co.

Under the plan, the Chicago company would agree to purchase outright from a railroad or private car line any series of standard freight cars which are bad ordered or in need of periodic repairs, or cars for which no work funds are available.

Cars so purchased would be repaired, either in the Chicago company's shops or in the road's own shops. In either case the company would pay the cost of such repairs.

Repaired cars would then be leased back to the road from which they were purchased. They would carry the railroad's name and reporting marks.

Daily rental charges for the cars would be determined in each case by their cost to the Chicago firm, the amount of repairs required and the length of term of the lease. The firm believes such charges would be, as a general rule, substantially below the daily per diem of \$2.40.

Once the cars have been leased back to the railroad, and placed in service, the carrier would have normal control over their use. All per diem and other earnings would accrue to the railroad.

The Chicago firm states that sale of bad order cars by a railroad would provide new funds immediately for other uses. Rental charges, meanwhile, would constitute a direct operating expense and could be charged off against current earnings.

PASSENGER CARS

The Seaboard Air Line has ordered 25 passenger cars at an approximate cost of \$4,728,000. Nineteen units will be built by the Pullman-Standard Car Manufacturing Company and six by the Budd Company. Included are cars with combinations of double bedrooms and tavern-lounges; double bedrooms, roomettes and sec-



AN INDUSTRIAL TOUR—one of two sponsored each year by the Central Sectional Group, Treasury Division, Association of American Railroads recently gave members of the group an escorted visit to the Pullman-Standard Car Manufacturing Company's research and development laboratories, which are located at Hammond, Ind.

MEMBERS of the group, and their guides, shown above, included: N. L. Hearn, Manon; G. C. Stromberg, Soo Line; G. F. Gerlach, Chicago River & Indiana; A. C. Carus, Löselle & Bureau County, E. G. Jerome, New York Central; W. M. Bernethy. Chicago South Shore & South Bender, P. O. Linstead, Chicago & North Western; O. J. Andersen, Soo Line; James Cathcarl, Pullman; A. B. Huttig, Illinois; Central; W. K. Baxter, Chicago & Eastern Illinois; D. A. Estling, Minne-

apolis & St. Louis; J. F. Kelley, Pullman; H. S. Latham, Northern Pacific, chairmon of the sectional group; A. E. Arneson, Duluth, Missabe & Iron Range; W. H. Carver, Railway Express Agency; W. J. Cambausen, Rock Island; W. J. Collins, Chicago & Western Indiana; W. J. Collins, Chicago & Western Indiana; W. P. Broker, Elgin, Joliet & Eastern; W. A. Hall, Baltimore & Ohio Chicago Terminal; and James Williams. Mr. Williams is an honorary member of the group.



REVENUES AND EXPENSES OF RAILWAYS

(Dough agree are realed in flowlends) 1.6., with lost farce eligits omitted)
MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1954

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lway income 1953 \$40 826 4,021	548	25.52	1,057 8,654 61 791 3,062 43,185	30 1,853 485 6,220	307 4,607 90 869 869 155	333 3,816 406 4,904	3,951 55,203 55,203 3,962	771 771 7,245 2,232 28,509	350 3,737 180 1,825 1,179	25,143 25,639 315 649 504 7,851
Net rail- 1954 1954 \$54 326 6,428	677 677	58 460 117	969 10,028 94 657 1,342 29,104	662 195 1,991 4,900	266 79 736 171	-67 -714 465 3,837 423 3,428	28 153 5,011 45,834 3,077	49 466 299 477 2,618 25,314	3,754 210 1,769 2,920 11,125	1,895 17,097 91 629 869 6,056
Railway tax of accruals 1865 17,697	828 828 223 223	360 10 97	525 9,450 15 400 1,955 20,102	39 428 48 892 94 3,054	5,570 66 587 28 308	13 144 226 2,383 462 5,104	40 469 3,632 29,001 1,523	84 814 1,094 11,761 2,940 28,180	290 3,520 198 1,563 1,445 15,064	1,687 15,300 172 1,899 125 2,064
Net from railway operation \$143 924 14,528	1,882 1,882 87 545	116 812 20 256	1,579 22,542 109 1,105 4,534 62,777	1,954 1,954 5,624	11,085 11,038 -21 -325 -18 745	92 755 6,705 1,071 10,340	1,686 8,401 71,151 5,717	1,657 2,046 19,761 6,187 57,730	830 9,551 4,417 4,827 34,139	41,056 557 4,278 4,278 7,340
ting 1953 76.2 64.8 82.6	46.6 45.6 45.6 83.7	68.2 76.0 82.7 77.2	88.4 86.6 78.9 78.9 78.9	89.5 89.5 79.0 66.2 57.0	86.5 2.2 2.4 86.0 86.0 86.0	112.2 116.0 83.2 80.1 80.0 79.7	79.2 7.07.7 7.0.5 7.0.5 7.0.5	67.7 72.7 84.7 86.0 74.1	68.2 73.3 77.5 84.5 83.7	75.9 74.3 87.6 67.7 60.4
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T 1 233333	1,592 1,592 2,991	3,111 121 1,197	10,423 116,243 1,957 26,170 284,862	257 2,637 571 9,374 1,099 13,905	5,654 62,307 1,652 4,637	2,333 2,724 29,764 3,607 40,745	8,122 17,750 206,740 23,171 23,904	5,332 13,817 153,208 15,914 173,327	1,896 20,479 1,362 14,632 16,037	11,361 2,362 25,668 1,002 11,630
Trans- portation \$129 1,474	135 135 1.510	1,435 496 496	4,554 52,100 1,787 13,470 146,902	145 1,455 3,202 374 4,429	3,126 32,738 228 228 170 2,255	1,323 1,292 14,230 1,927 21,889	357 4,009 8,942 94,591 1,094	2,197 7,356 80,307 8,180	840 9,450 653 6,501 7,993 87,590	5,703 63,842 1,297 14,394 409 4,355
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Expenses – Deprec, and Retire-ments 163	53 53 13 136	188 188 52	588 6,493 42 467 1,019 11,249	21 89 924 142 1,568	194 1,581 22 245 17 191	1,506 1,506 1,946	11 124 1,501 16,587 1,440	23 256 843 9,126 8,35 8,820	1,325 73 786 878 9,803	6,142 89 999 91 1,274
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Strictures Deprocault and Retire- mental	31 38 68	22 28 2	2,005 2,005 6 88 5,235	142 142 173 178 212	1,784 1,784 9 9 5 5	5 50 49 176 1,061	1182 4,255 314	103 3,607 3,707 3,73 4,372	4.65 4.55 E. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	2,782 52 541 19 215
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Maint, Way 1, Total 1954 867 732 7,725	277 44 482	565 325 325	23,286 151 1,693 3,631 41,709	2,750 2,750 2,036	1,152 13,766 20 210 75 1,049	513 521 521 5,718 663 7,023	2,311 2,580 38,392 328 3,837	2,313 2,114 2,114 32,507	4,545 2,764 2,764 35,793	1,996 24,099 450 4,803 245 3,025
(inc. misc.) 1953 8479 5,870 46,846	3,479 3,479 393 4,110	4,403 1,748	12,425 50,392 531 6,392 35,029	280 3,173 947 11,848 2,477 29,107	6,866 81,716 1,528 393 6,088	239 2,513 3,275 4,906 57,507	892 10,645 26,113 19,869 2,868 33,520	8,122 16,017 188,710 23,113	2,934 28,502 1,800 20,183 21,014 239,501	15,342 192,157 3,179 31,398 1,893 22,466
Revenues 1954 \$473 4,642 48,182		405 3,923 141 1,454	12,002 38,785 544 6,062 30,704	262 2,620 706 11,328 1,184 19,529	6,739 74,346 1,327 1,327 5,382	217 2,426 3,479 36,469 4,678 51,085	868 9,808 26,151 2,888 29,644	644 6,990 15,862 172,969 22,101 231,057	2,726 30,031 1,882 19,050 20,863	15,592 171,515 2,919 29,946 1,897 18,970
Operating Page.	25,320 12 12 372	356	1,042° 15,864° 1 15,864° 1 15,859° 3	552 225 324 	9,686 9,686 40 563	15 164 123 1,683 460 4,947	40 663 507 6,751 2,496	1,701 20,163 1,342 17,153	5 109 63 646 1,101 13,531	1,332 15,752 145 1,708
Freight \$466 4,551 41,239		3,163 1,433 1,433	9,916 110,898 532 5,906 26,928 304,580	2,031 638 10,533 1,173 19,365	5,156 56,916 1,326 1,326 4,486	2,024 3,114 31,967 3,849 42,240	24,330 256,347 256,347 2,388 24,212	628 6,830 12,470 134,335 18,705	2,532 28,031 1,655 16,910 17,680 180,874	12,850 139,820 2,557 25,862 1,888 18,863
Average mileage operated during period 171 13,073		133 205 205	5,352 5,358 343 343 6,183 6,183	605 605 209 209 209	1,676 1,676 35 35 234 234	90 1,764 1,770 613	5,128 5,128 5,108 868 868	130 7,876 7,876 8,858 8,858	1,470 1,470 541 541 10,640 10,639	7,924 7,893 1,616 1,616 315
Nov.		11 mos.	11 mos. 11 mos. 11 mos. 11 mos.	Nov. 11 mos. Nov. 11 mos. Nov.	Nov. Il mos. Nov. Il mcs. Nov.	ontNov. 11 mos 11 mos 11 mos	Nov. 11 mos. 11 mos. 11 mos. 11 mos.	Nov. 11 mos. 11 mos. 11 mos.	Nov. 11 mos. 11 mos. 11 mos.	Nov. 11 mos. 11 mos. 11 mos.
9	Bay	Western of Alabama	Atlantic Coast Line	Staten Island Rapid TransitNov. Il mos. Bangor & ArosatookNov. Il mos. Bessener, & Lake, EricNov. Il mos.	Boston & Meine	Canadian Pacific Lines in Vermont Nov. Central of Georgia	Central Vermont.	Chicago & Illinois MidlandNov. Lines. Chicago & North WesternNov. Chicago, Buslington & QuincyNov. NovNov.	Chicago Great WesternNov. Chicago, Indianapolis & Louisville.11 mos. Chicago, Milw., St. Paul & PacificNov. 11 mos.	Chicago Bock Island & PacificNov. Chicago, St. Paul, Minn. & OmahaNov. Il mos. Clinchfield

REVENUES AND EXPENSES OF RAILWAYS (Dollar figures are stated in thousands; i.e., with last three digits omitted) MONTH OF NOVEMBER AND ELEVEN MONTH OF CALENDAR YEARIJOSA OFFICIAL EXPENSES.

Z.	Trans- Total Operating Prof. From Indiana Indiana Operating Prof. portation 1954 1958 1954 1953 operation opera	49 134 163 81.9 91.7 30 25 4 —2 531 1459 1559 85.2 80.5 253 207 42 130 1571 3492 3304 80.0 76.6 873 291 593 794 3160 5.339 5.858 80.6 82.0 1288 470 682 679 33,877 59,456 63,893 83.0 77.2 12,198 5.332 5,935 9,379	1,887 3,990 4,168 62.3 59.9 2,420 1,055 1,330 1,255 20,152 4,479 50,277 66.3 64.8 22,589 9,823 12,026 12,026 414 1,310 1,307 71.5 66.2 28,4 98 251 316 188 360 384 62.5 248 69 69 76 1,253 2,074 3,936 4,283 58.0 64.2 2,855 891 768 1,033	1,030 1,541 1,140 101.1 66.4 -16 Cr 506 649 268 5,514 12,310 14,415 77.1 69.4 56.4 88.5 5.06 268 2.792 12,289 26,621 33,96 69.5 54.3 11,876 7.4 97. 32.9 30. 2,193 5,54 6,51 5,51 90.7 11 2.193 3.761 33.3 32.1 44.4 2,193 5,54 6,507 88.2 85.7 741 33.3 321 44.4	182 326 387 70.5 95.6 137 36 47 —72 2.282 4.043 4.096 79.4 88.8 1.051 397 —12 —481 1.331 2.049 5.402 5.55 1.24.8 1.642 6.24 806 —481 14.908 3.2942 3.6046 83.5 7.05 6.529 2.776 1.39 3.393 5.689 10.059 10.468 7.6 2.766 9.38 1.331 1.451 6.0.785 114.122 124.610 81.5 7.4 2.566 7.041 11.631 7.916	11,260 24,295 23,792 85.1 19.4 441 197 66 —35 12,260 24,295 23,792 85.1 79.7 45.4 2.883 124 2.416 3,284 6,794 7,462 87.9 80.8 80.1 15.9 964 2,737 2,986 88.9 88.5 340 162 —73 110	2,135 3,773 3,682 83.2 82.8 762 308 37 155 3,801 4,5522 44,088 84,4 79.8 80.74 347 550 4,187 1,571 224 228 106,1 130,4 -0 25 106 136 1,571 2892 300 131,6 124,6 -66 274 1,641 134 6,869 15,499 15,393 15,7 68.2 4,972 2,691 1,904 2,284 76,607 173,978 178,1 75.5 11.8 56,540 28,100 21,878 2,288	105 2.75 2.48 76.6 70.0 84 44 23 2.0 2.03 4.82 3.16 3.16 2.03 4.82 3.16 3	4.148 8.463 9.472 75.1 74.1 1.241 1.08 92 1.156 1.04 1.966 2.653 69.1 7.8.5 1.276 99 67 1.171 1.456 2.1801 27.37 58.6 69.6 1.276 50.9 67 1.171 1.456 2.1801 2.737 58.6 61.8 15.789 6.822 6.914 7.496 2.24 2.857 3.93 6.55 69.0 1.27 39 6.23 58.8 1.727 706 664 1.068	83 2.20 2.28 2.69 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.28 2.29 2.29 2.28 2.29 2.29 2.28 2.28 2.29 2.29 2.28 2.28 2.29 2.29 2.28 2.29 2.29 2.28 2.29 2	2.391 4.459 4.661 80.4 80.7 10.09 2.34 734 786 25.597 40.359 40.359 8.60 4.90 9.886 2.439 40.359 8.60 4.90 8.60 8.60 8.60 8.60 8.60 8.60 8.60 8.6
Expenses uipment Deoree.	and Relire- ments 7raffic 41 30 455 340 44 60 478 646 11 125	6 5 68 51 179 84 1,979 957 315 180 3,485 1,972	281 181 9 5 103 54 18 17 197 185	93 43 1,065 417 111 9 1,217 108 23 27 255 300	2 5 23 60 113 32 1,255 383 510 3,908	78 82 856 865 33 34 361 367 8 18	90 74 990 864 3 1 30 718 427 7,759 4,503	8 22 87 250 282 261 3,078 3,021 747 486 7,902 5,789	42 47 459 498 92 88 1,000 1,006 11 27 124 307	16 2 177 22 8 13 93 152 40 15 437 151	2,280 1,517 125 1,517
Maint. Equ	Total Total 1954 1953 238 202 2,460 1,968 297 293 3,44 27 307 385	27 46 : 80 324 822 785 8,908 974 1,218 11,755 14,009	1,073 1,035 10,536 12,553 44 26 280 264 59 68 647 705	27,817 2,903 535 707 7,395 8,040 1,20 1,44 1,350 1,631	78 84 776 860 473 3,256 13,239 12,302 2,102 2,130 22,925 23,875	520 545 5.526 5.863 121 131 1,427 1,495 29 31	809 891 9,135 9,507 26 27 334 459 3,450 3,691 39,230 41,736	39 45 523 462 1,166 1,310 14,120 15,418 3,477 4,264 42,437 45,381	131 163 1,640 2,001 395 604 4,206 6,038 23 26 370 475	54 72 640 669 27 26 325 320 137 146 1,546 1,485	960 1,109 10,023 12,134 891 883
Way and S	Total Retre- 1953 mental 189 16 2,058 26 3,454 403 195 22	43 4 395 40 723 320 8,412 1,147 931 159 9,938 1,554	10,008 1,263 47 3 464 32 90 3 926 37	267 258 2,767 258 483 63 6,582 731 1,28 10	75 5 970 48 355 29 3,694 280 1,931 208 23,566 2,673	397 43 4,171 483 130 13 1,346 117 91 5 1,129 122	462 65 7,926 604 59 9 767 114 3,018 608 43,509 4,252	45 929 1,359 13,112 3,553 42,178 42,178	1,667 290 680 53 6,013 432 1,062 81	59 13 685 144 52 11 470 37 84 8	907 97 9,366 1,039 674 87
Maint	(fine_misc.) Total 1953 1954 1,402 300 1,402 2019 1,732 641 5 20,731 4,089 2,56 3,77 3,169 211	3 1,937 395 5 4,312 887 5 6,938 748 6,938 748 1 82,775 8,750	8 78,646 8,581 3 162 30 1 1,976 430 8 613 79 3 7,899 875	1,718 184 20,758 2,816 3,490 364 7 62,555 5,569 2 7,596 1,450	3 373 52 4,612 842 1 4,327 195 5 13,845 1,302 1 168,203 19,586	2.441 375 9 29.871 4,798 7 798 123 1 8,866 1,339 9 279 72 7 3,615 986	5 4.445 558 6 56,405 7,644 5 161 59 0 22,581 3,620 9 248,787 43,804	9 355 92 4 7,657 1,028 8 85,919 11,252 5 24,906 3,537 5 283,596 39,596	11,642 1,498 11,642 1,498 3,812 352 9 44,186 3,777 8 425 67 6,158 712	3 277 47 3 4892 632 3 297 446 0 644 69 0 7,580 875	8 6,025 726 2 70,597 9,114 1 4,564 720
	Coperating Revensing Revension Reven	7 164 10 13 1,713 4,365 77 1,736 44,763 790 6,626 7 8,456 71,630	168 6,410 1 2,595 67,068 0 2 1,834 4 6,793	6 2 15,974 3 2 908 8 10 38,497 1 52 6,280	6 9 5,095 7 3,691 4 39,472 7 536 12,825 3 6,222 139,931	1 5,319 28,549 1 19 28,549 0 264 7,731 7 209 1 3,077	2 2,421 51,596 8 79 2,197 7 2,197 4 752 20,470 3 9,920 230,519	3 3.987 4 3.02 6,804 8 302 6,804 1,746 23,115 5 19,538 253,605	8 587 10,060 5 101 3,237 7 1,208 37,589 7 4,584	5 3,388 5 3,388 0 2,967 6 600 8 6.190	2 283 5,548 6 3,203 59,882 5 3,651 5,111
Average	during period Freight 724 1,154 727 10,925 1,038 2,638 1,038 18,300 1,04 40 1,509	168 157 168 1,630 793 4,096 793 41,387 962 5,137 962 56,037	2,165 6,058 2,165 61,981 232 1,800 50 564 50 6,284	464 15,366 464 15,366 567 713 567 32,578 553 481 553 5,871	175 455 175 5,006 236 2,957 2,225 11,297 2,224 122,383	571 20,921 321 651 321 6,550 332 247 335 3,041	952 4,000 952 45,492 172 1,744 8,308 18,284 8,306 203,793	224 353 224 3,914 2,758 6,018 2,761 65,421 6,539 19,233 6,537 209,115	355 8,418 891 2,805 891 32,717 327 4,562	156 2.785 156 2.785 96 2.960 189 596 180 6,138	1,163 4,942 1,163 53,316 360 1,205
	Colorado & Southern Nov. Ft. Worth & Denver Nov. Colorado & Wyoming. Nov.	Columbus & Greenville	Desver & Rio Grande Western Nov. Detroit & Mackinac Nov. Detroit & Toledo Shore Line Nov. 11 mos.	Detroit, Toledo & Ironton	Duluth, Winnipeg & PacificNov. Egin, Joliet & EasternNov. Il mos. ErieNovNov. Il mos.	Florida East Coast. Nov. Georgia Railroad. 11 mos. Georgia & Florida. 10 mos.	Grand Trunk Western	Green Bay & Western 11 mos. Galf, Mobile & Ohio 11 mos. Illinois Central 11 mos.	Hibrois Terminal	Lake Superior & IshpemingNov. Lehigh, & Hudson RiverIn mos. Lehigh & New EnglandNov. 11 mos.	Lehigh Valley 11 mos. Long Island Nov.

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)
MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1958

Average	Name of Road Our of the control	Midland Valley	Mississippi Central Nov. 148 Missouri Illinois 11 noe. 138 Missouri-Kansas-Texas Lines 172 Missouri-Kansas-Texas Lines 3,241	Missouri Pacific	Montour Nov. 177 Montour II mes. 51 Moskville, Chatt, & St. Louis. 1,036 11 mos. 1,036	New York Central Nov. 10,713 Pittsburgh & Lake Erie. 10 Nov. 221 Thus. 11 mos. 221 New York, Chicago & St. Louis. 10 mos. 2,185 11 mos. 2,185	New York, New Haven & Hartford Nov 1,769 New York Connecting 1770 11 mos. 21 11 mos. 22 New York, Ontario & Western 11 mos. 541	New York, Susquehanna & Western. Nov. 120 120 Innos. 120 120 Innos. 2.133 11 Nov. 2.133 11 Nov. 2.134 11 Nov. 612	Northern Pacific Northwestern Pacific Northwestern Pacific Northwestern Pacific Northwestern Pacific Northwestern Pacific Northwestern	Pennsylvania
& 2.7	g Freight 2 1,947 2 21,787 10 15,155 14 156,760 14 19,464	14 1,881 17 1,728 17 18,049 22 2,824 22 33,166	48 2.177 72 491 72 4,760 41 5,031 41 57,110	19 16,076 24 166,343 03 2,288 03 24,948 24 2,832 24 22,463	77 434 51 5,140 51 122 51 1,427 43 2,642 36 27,675	13 45,209 13 466,331 21 2,463 21 27,869 85 11,961 85 126,500	69 6,838 21 2,242 21 2,919 41 459 41 5,278	- 2	66 13,354 66 138,564 31 12,108 32 79 32 1,100	51 52,474 51 579,661 58 611
Oncerti		74 31 28 38 33 34 54 53 56 908	05 91 60 31 258 10 3,010	9	34 40 22 27 103 42 1,382	99 8,342 31 96,372 63 709 61 132 00 1,644	38 4,167 86 45,327 42 59		9	9,9
ing Rove	2011 1954 1954 1954 1954 1954 1954 17,069 17,069 17,069 17,069 17,069 1,873 14,99 22,302	. 1,917 3 1,800 4 18,837 3 3,055 8 36,102	209 -1 2,220 1 493 1 4,790 58 5,836 10 66,360	668 18,591 177 194,291 104 2,640 545 29,040 93 3,148	5,176 132 132 1,522 03 3,077 82 32,623	12 646,177 52 646,177 59 30,254 30 12,465 44 132,650	57 12,447 27 137,043 269 3,159 5,427	48 5,3 439 5,3 281 15,0 3,635 154,2	539 14,936 506 157,367 1 589 42 12,443 79	51 780,526
	(inc. misc.) 1953 2,503 28,049 17,825 215,224 1,969 23,366	20,380 1,792 20,396 2,609 37,304	2,526 383 383 0 5,283 6 6,540 0 78,919	1 18,923 1 22,044 0 2,776 0 34,562 8 3,396 3 39,748	531 6 7,225 2 175 2 2,475 7 3,078 3 36,890	7 760,562 1 3,266 4 45,942 5 13,101 0 154,699	7 13,374 9 3,785 9 3,785 1 6,552	524 478 5,318 5,348 5,013 14,739 5,272 175,061 505 10,213	6 14,809 7 166,629 9 12,131 9 94 1 1,002	1 79,544 6 960,520 744
Maint.	2,930 2,930 2,930 2,672 30,404 4,826	44 447 295 3,253 626 7,654	596 55 800 819 9,707	3,014 33,102 496 5,526 607 7,323	823 13 160 5,354	6,731 87,554 4,542 1,340 15,120	1,328 18,267 108 1,169 1,347	43 3 1,648 1 22,898 3 2,016	1,996 24,676 134 3,140 18 225	7,751
Way and Si	Total 1953 4,682 2,655 30,301 4,875	534 232 3,581 501 8,271	79 650 70 866 1,136 12,148	3,792 41,685 563 7,438 836 9,070	1,278 25 353 540 5,783	9,218 104,971 476 5,873 1,719 18,584	2,473 24,657 117 1,076 1,410	43 617 1,952 24,990 2,216	28,479 28,479 3,260 21 240	10,735
	Retire- ments 28 240 2,539 2,539 314	36 336 50 50 549	26 44 43 104 1,126	3,378 32 424 48 622	176 176 27 27 44 474	974 11,256 42 453 162 1,701	2,969 25 276 23 23	5,414 3,414 144	2,920 20 231 231 29	15,652
W	Total 1954 2,888 3,438 40,095 4,213	129 259 2,926 601 6,740	27 292 78 834 834 949 10,116	3,225 35,052 484 5,233 5,233 5,540	54 685 45 528 436 4,560	9,810 715 9,688 1,874 21,363	1,879 20,621 18 260 84 84 969	46 651 2,877 32,995 1,344	2,528 29,737 63 990 17	13,983
Maint. Equipment Deprec.	Total 1953 475 3,543 3,790 42,381 366 3,905	181 286 2,986 670 7,472	27 338 81 833 1.082 12,247	3,688 43,977 541 6,287 563 5,996	49 756 71 841 421 5,380	14,015 153,805 940 11,597 2,296 24,488	1,996 22,314 18 266 81 956	63 3,258 37,090 1,314	2,888 31,512 0,184 1,184	18,106
Deprec.	Petire- ments 91 943 10,348 78	42 75 836 103 1,111	291 291 2,625 2,625	803 8,801 123 1,312 1,209	14 153 11 195 138 1,510	25,244 25,835 283 3,172 3,881	444 4,566 222 248	13 140 677 7,417 305	490 5,094 4 46	32,552
	Traffic p 72 815 355 3.807 (23	57 100 1,151 885	14 151 110 109 2,678	5,134 57 670 87 1,005	1 11 131 1,299	872 11,552 27 812 319 3,486	2,216 2,216 25 260	3,624 3,624 536 536	3,933 7 62 22 21	1,220
	7rans- portation 593 6,513 5,888 165,788 1472 8,087	53 596 596 6,422 1,157 13,698	49 552 107 1,215 2,188 25,721 5	6,378 73,036 1,093 12,161 1,019 12,476	1,827 56 604 1,097	26,159 291,759 1,062 12,038 4,394 48,520	5,380 61,059 71 882 2,45	2,366 4,526 48,641 2,818	5,845 64,101 177 3,807 219	31,486 5
	Total 1954 1,253 14,007 13,002 13,002 1,573 18,369	1,317 1,317 1,338 4,889 2,602 30,444	1,702 262 3,077 4,490 1,561	3,657 3,466 2,238 4,896 2,339 7,951	312 3,457 124 1,407 2,273 24,798	46,655 5 148,127 62 2,470 3 29,519 3 8,358 93,346 10	9,700 1 110,680 12 2,345 5,11 5,667	3,950 9,950 14,911 7,339	11,467 130,704 399 8,231 42 537	57,381 6 654,921 78
	Total 1953 1,745 16,767 13,627 15,967 15,25 18,046	132 1,512 6,512 6,569 7 7 7 7 7 7 7 7 7 8 8 2,619 8 8 2,395 8	1,887 1,887 3,292 5,156 57,636	15,500 77,470 29,120 27,767	2, 172 2, 172 2, 172 2, 278 2, 278	56,089 627,934 35,777 35,706 9,393	11,013 121,183 2,348 5,970	351 3,953 10,839 25,115 683 7,738	11,882 135,044 698 8,914 48 539	67,022
	Operating 1954 19 60.1 69. 60.0 60.0 76.2 76. 82.1 72. 84.0 77.	71.6 63.7 74.4 74.7 779.0 777. 85.2 100.	67.3 85. 76.7 74. 53.2 76. 64.2 62. 77.7 73.	73.5 81.3 88.3 88.7 88.7 84.2 84.3 84.3 84.3 84.3 74.2	71.5 64. 66.8 63. 94.2 98. 77.73.8 74. 76.0 71.	76.1 86. 84.8 82.1 92.1 85. 97.6 77. 70.4 67.1	77.9 88 80.8 80 74.6 66 74.2 66 08.5 10	665.3 74.3 774.5 704.7	883.1 88 667.7 7 7 753.6 553.6 55	81.4 8
	1000040	804048 8, 13		9 × 0 × 4 ×	248002	*******	82.3 80.1 66.6 62.9 91.1	73.3.3 77.3.5 77.3.5 77.3.5 39,	80.2 3, 81.0 26, 773.5 1.2 53.8	84.3 13,111 82.2 125,605
4	From Railway tax v operation accruals 831 289 9,322 3,828 4,067 2,447 32,156 18,248 3,933 1,673	50 601 22 461 23 453 28 28 28 28 28	68 231 231 1,713 6 1,346 4,399 4,399	1.0	125 3,719 8 115 805 3,825 3,4	14,623 4,760 98,050 51,658 211 233 735 2,585 4,107 2,002 39,305 19,414	2,747 8 26,364 9,2 68 814 9 240 4	368 368 360 360 229 760	469 1,9 662 15,3 190 1,5 37 2,2 574 2	4.85
1	x operating in the control of the co	212 2537 2537 2537 186 991 1,807 229 229 219 888 2,514	30 28 200 213 84 155 627 1,135 382 577 369 6,383	27 3,248 62 22,398 83 253 115 2,363 90 5,475	2818 300 127 26 33 358 462 319 456 481 4,068	58 24,702 33 24,702 85 7,521 02 1,672 14 15,899	818 949 209 6,652 83 —11 921 —110 36 —147 401 —1,450	73 418 2209 2,7 1102 2,7 136 5	1,982 1,818 5,325 13,753 1,520 953 16 8 232 196	492 6,321 264 45,611
	ailway ing income 14 1953 1953 1953 1953 1953 1953 1953 1953	22 281 6 221 7 1,950 9 1,869	249 249 25 25 25 876 876 3 8,708	8 22,615 3 220 3 359 8 411 5 4,797	88 33 52 664 66 448 66 448 8 5,411	3 4,364 92 57,108 11 12,930 1372 9 20,532	82 8,838 1 28 10 575 10 575 10 658	68 39 752 2211 103 25,859 82 84 82 84	8 656 33 14,096 11 29 704 8 14 160	21 4,945 11 75,636

REVENUES AND EXPENSES OF RAILWAYS
(Dollar figures are stated in thousands; i.e., with last three digits omitted)
MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1951

Operating Expenses

	perating i	6 60 47 654 654 654 25 1.02 1.332 4.74 1.182 1.5.708	2,528 -123 -123 143	939 1,101 1,238 31 11 13,562 418 291 419 550 1,473 749 9,521 6,920 9,982	1,213 1,802 1,675 13,717 20,421 21,652 1,011 3,691 3,559 31,233 30,360 37,619 132 2,109 2,751	862 625 5636 43 -51 20 43 -36 612 20 215 172 203 2.275 1,413 2.272	\$321 4,733 3302 \$0.315 31,517 44,899 871 555 916 872 5,610 11,138 9 63 33 835 595 612	2 257 5.117 5.587 26 31 30 256 210 355 27 14 335 239	7,323 7,225 11,565 23 16 33 11,6 97 344 75 52 59 930 693 896	5,130 4,137 4,114 5,05 28,999 23,781 91 -103 48 735 737 5592	11000
N.	from railway operatio	250 1,397 2,011 21,133	14.029 12.029 12.029 12.029 13.020 13.020 15	20,013 02,013 12,231	35,115 3,115 3,103 65,635 318 4,100	14.12 14.176 141 2,115 3,675	25,333 25,333 1,217	8.233 1111 896 76 573	18,350 18,350 105 105 105 105 105 105 105 105 105 1	103,334 25 25 52 1111 12,511	
	LI THE	93.4 81.0 77.1 78.6 77.0	75.8 66.2 80.0 80.0 100.0 0.00	25.25. 2000 2.1.1.1.	451586 4515866	672.9 63.6 63.6 61.0	2001-1368 2001-1268	63.9 63.8 777.4 32.7 21.0	70.9 69.1 653.2 655.1 559.8	71.0 75.0 881.0 845.5 76.9 67.8	
1	(=	77.5 77.5 77.5 7.6.8 7.8.6 8.8 7.8.8	FF 2 8 8 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	20 20 20 20 20 20 20 20 20 20 20 20 20 2	754.33	54 52.0 62.0 8 75.0 9 63.0 66.0	75.2 80.0 77.1 80.7 73.5 80.0 80.0	50 63. 50 63. 50 63.	527.72	72 72 75. 10 73. 10 55. 10 55.	
		1,831 477 6,335 8,510 91,411	1.2557 1.2505 1.2505 1.052 2.012	89,06 89,06 3,22 3,92 11,60	102,963 102,963 15,934 172,035 1,107	26,505 26,505 26,505 4 5,778 6,502	8,32,701 8,300 8,300 95,479 132	1,530 11,18,418 13,638 14,3,638 30,44 325	51,46	1 355,939 1 355,939 1 101 1 101 2,269 23,716	
	s- Total	1,150 1,150 1,85 5,331 7,372 78,530	1.0 2.5 2.5 2.5 2.5 2.5 2.5 2.5 3.5 3.5 4.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5	# 0101 E	8,114 9,146 13,97 169,639 1,110	2,013 23,640 672 6,554 600 7,180	32,014 365,296 8,168 90,736 139 1,814	1,717 18,561 3,287 2,87 2,83	52,019 1,125 1,925 356 4,017	332,471 332,471 91 91 91 1,961	
	0	35 412 170 1,863 3,617 40,070	152 152 1741 177 178	3,575 41,113 1,677 1,436 16,646	41,851 6,876 72,551 4,913	262 262 2,882 213 2,557	15,706 180,996 3,607 43,252 814	8.994 121 1,384 84	23,519 23,519 671 1463 1,463	14,559 159,759 337 647 647	
808	Traffi	50 61 679 169 1.742	252222	353 3.862 26 282 192 1.949	355 3,919 413 4,607 37 380	208 18 208 208 21 21 224	906 9,470 258 3,014 5	30 322 13 140 11	2,075 2,075 9 100 46 501	11,000 11,060 1 8 8 44 44	
g Expen pment Deprec	and Retire ment	130 36 397 430 4,792	770 770 136 136 39	5,688 5,688 113 107 1,165	5,878 770 8,651 57	133 1,452 7 71 43 456	1,879 20,492 145 1,586 1,06	107 1,173 22 243 243 27	2,691 10 107 117 113	1,608	4,100
Maint, Equi	Total 1953	97 590 101 1,920 2,260 24,842	3,293 60 684 111 211	1,592 19,268 34 407 811 7,917	25,148 25,404 45,268 3,759	835 8,855 73 797 1,402	9,056 104,480 1,653 18,073 28 264	3,887 69 746 7	997 12,264 34 349 86 86 668	7.975 91,285 34 436 804	0,400
s Ma	Total 1954	42 534 118 1,318 1,931	3,648 57 597 117	1,580 17,826 28 350 466 6,770	24,583 3,346 40,531 3,145	565 6,534 79 761 1142 1,607	8,207 96,409 1,488 16,508 28 287	390 4,200 60 647 8	1,044 11,814 45 330 55 612	7,338 80,968 24 392 657	
	Retire- ments	40 28 264 183 2,207	281 281 81 92 92 92	158 1,670 4 58 33 577	215 272 2,753 2,753 33 338	485 102 102 20 225	613 215 1,633 31	59 561 63	89 1,120 6 65 65 71	5,083 20,2 20,20 62,50	200
Way and	Total 1953	19 518 96 1,431 1,713 18,590	369 4,169 79 849 93 716	1,611 18,130 52 659 1,133 11,658	1,822 22,141 3,320 34,087 254 2,693	444 4,891 198 1,850 1,829	4,841 59,716 1,801 22,223 22 636	339 4,252 93 1,006 5	11,117 11,642 59 607 86 1,182	4,913 66,525 22 216 532 532	20110
Maint.	13	348 98 1,074 1,191 12,506	3,242 80 848 47 707	1,461 16,511 44 512 587 7,616	1,822 20,601 2,740 32,131 2,497	5,250 2,250 2,220 169 2,157	5.283 56.114 2.302 21,696 519	3,999 76 835 43	796 10,870 56 607 76 1,012	5,255 57,025 20 171 429	This war
	(inc. misc 1953	205 2.235 671 8,405 10,824 122,652	25,221 438 4,648 1,170	10,181 118,586 342 4,738 5,605 67,080	11,743 143,235 21,215 252,359 1,593 18,286	3,544 43,289 806 9,082 1,048	40,146 505,094 11,416 134,250 212 3,149	2,220 28,847 434 4,744 1,355	6,819 79,698 304 3,132 630 7,229	44,878 488,063 125 1,188 2,951	99,000
	Total 1954	1,720 6,730 9,383 99,717	23,554 23,554 387 4,170 191 2,406	9,274 105,007 347 4,229 5,163 53,954	12.075 135,891 22,074 226,365 1,458 15,921	3,455 38,116 816 8,669 945 10,875	42.058 456.815 10,509 116,069 240 3,031	2.501 26,854 412 4,183 100 856	6,473 70,448 236 2,434 564 6,350	41,882 441,859 115 942 3,275	000,000
	Operatin Pass.	579		359 4,668 3 47 22 199	10,889 983 14,063 43 691	1,639 35 702 31 31 469	2,426 31,148 443 5,748	863 1 1 14	3,749	2,057	4.7
	Freight	145 1,708 6,697 8,157 86,701	14,893 346 3,717 2,317	8,156 92,104 318 3,938 4,944 51,778	10.268 113,734 19,426 193,310 1,276 13,728	3,149 34,208 7,150 7,150 9,664	36,873 395,305 9,405 102,637 2,883	2,277 24,404 408 3,968 93 811	5,585 60,729 222 2,282 2,282 6,252	36,954 379,693 115 940 3,167	Oct 1 to
Average	during period	97 97 132 1,305 1,305	118 392 392 265 265	4,601 4,601 159 1,562 1,562	4,064 4,072 6,286 6,286 326 326	337 475 418 203 203	8,121 8,120 4,288 4,290 151	944 944 286 286 8	1,831 1,832 161 161 239 239	9,816 9,817 99 104	110
	;	Pittaburgh & Shawmut	Richmond, Fredericksburg & Potomae Nov. Rutland, "Nov." Nov. Nov. Sacramento Northern Nov. 11 mos.	St. Louis-San Francisco & Texas. Nov. St. Louis-San Francisco & Texas. Nov. St. Louis-Southwestern Lines. Nov. Nov. 11 mos.	Sesboard Air Line	Ginn., New Orleans & Texas Pacific Nov. Georgia Southern & Florida Nov. Il mos. New Orleans & Northeastern Nov. Il mos.	Southern Pacific Nov. Toxas & New Orleans III mos. Spokane International Nov. II mos.	Spokane, Portland & SeattleNov. Tennesse: CentralNov. Texas & Northern	Texas & Pacific	Union Pacific. Nov. Utah. Nov. Il mos. Virginian. Il mos.	

Another Prize Contest— "Traditional Differentials"

Having brought to light a large number of stimulating ideas about the "inherent advantages" of railroads and how to make them effective—through his generous offer of a prize of \$500 for the best essay in that field, conferred last year through the medium of this paper—Warren W. Brown, president of the Monon, now comes forward with another offer of a \$500 prize, to which this paper adds \$250 as a second prize, for the best essays in answer to the following question:

"Traditional Differentials in Railway Rates—Should They and Can They Be Maintained Under Rivalry from Contract and Private Transportation?"

In hundreds of places, and for many different commodities, railway rates have been traditionally established and regulated to maintain recognized rate differences (in cents or percentages) as among producers located at varying distances from important markets; and to maintain standard rate differences between competitive or related commodities. These differences provide, usually, for much higher charges per ton-mile for the shorter hauls than for the longer hauls and much higher charges on some commodities than on others of similar loading characteristics. The purpose and effect of such rate-making has been to keep a maximum number of competing suppliers, both nearby and distant, in business. The questions arise: Are such rates any longer of any real help to shippers and receivers of freight? Do they not deprive the railroads of a lot of profitable traffic, while no longer affording any advantages to their customers? Whether these questions are answered in the negative or affirmative, citations of specific facts should be made to support the answers given.

In many cases, for example, truck transportation (especially private and contract) has invaded those areas of such movements where the per-ton-mile railway charge is high, leaving the traffic at low per-ton-mile charges on the rails. The traditional differentials still stand in the rail tariffs, as "paper rates," but are these "paper rates" of any practical value to shippers or receivers of freight in their marketing arrangements?

A full disclosure of the facts of this situation

—and what it means both to shippers and receivers of freight, and to the railroads—is certainly desirable in the public interest.

The best essay on this subject—not predominantly a theoretical discussion, but one citing actual instances of prevailing conditions as they affect the movement of a specific commodity or commodities—will win the Monon prize of \$500. The essay deemed next best by the judges will win a prize of \$250 to be donated by Railway Age. Names of the judges will be announced in Railway Age later.

Contestants' anonymity will be scrupulously protected if they desire it; citations of actual data may be given in a manner not to reveal the identity or otherwise embarrass the writer—so long as they are factually correct.

As was the rule in last year's contest, essays should be typed, double or triple spaced, on one side of the paper only. The first page should contain only the name, address and occupation of the author. This identifiying information will then be separated from the rest of the essay before it is submitted to the judges. Therefore, no other page of the essay should contain any information which would reveal the identity, location or occupation of the writer. The judges will want to be able to consider these essays solely on the basis of their intrinsic merit.

Essays, which should not exceed 4,000 words (exclusive of tabular matter or charts, if any), should be addressed to the editor of *Railway Age*, 30 Church street, New York 7, N. Y., so as to be received not later than March 31, 1955.

Essays submitted become the joint property of Mr. Brown and of *Railway Age* and no responsibility is assumed for returning unsuccessful entries, so entrants should retain carbon copies of their manuscripts. The two prize-winning essays will be published in *Railway Age*, and other essays considered worthy of publication will be published at regular space rates.

The "inherent advantages" contest sponsored jointly by Mr. Brown and this paper proved an immense success. It attracted 184 contest entrants. A dozen of the essays considered best by the judges were published as a pamphlet, of which some 9,000 copies have been sold.

The subject of this new essay contest, while less general in scope than its highly successful predecessor, is nevertheless equally important to the future of the railroads and of the nation's transportation service. It should furnish a topic just as stimulating to constructive and original thinking as the "inherent advantages" subject.

New Locomotives for Old

-at less cost than you think!

In one door a 7-year-old F3 that has delivered over a million miles of heavy-duty freight service.

Out the other a locomotive that carries the performance rating of a new General Motors F9—and is backed by the same warranty as a brandnew unit.

That, in short, is the story of Electro-Motive's program for rebuilding and modernizing work-weary Diesels.

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shoes for longer life plus greater safety.

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Questions

and Answers for the Transportation DEPARTMENT

As railroads become fully dieselized, or approach that goal, the utilization of diesel power is receiving increasing attention. In this column, August 2 and 30, September 27, and October 11, five roads described some of the methods they use to try to assure best utilization of motive power. On November 22, a diesel builder's representative gave us an answer. Here, from another railroad. is another answer, the first part of which ran in the January 3 column.—G.C.R.

Pool operations utilize diesels well.

In passenger service, variations of Atlanta pool no. 1 (Railway Age, January 3, page 16) are set up elsewhere, as, for instance, with the seven locomotives in the Salisbury-Asheville-Columbia-Goldsboro combination. This pool has an operating cycle of eight days, during which a locomotive makes 2,428 mi. Leaving Salisbury, N. C., at 9 a.m. the first day, the locomotive operates in passenger service in turn to Asheville, N. C., Columbia, C., Asheville, Greensboro, N. C. Greensboro. Asheville, Greensboro, Goldsboro, N. C., Greensboro, Asheville, Columbia, Asheville, Columbia, Asheville, Columbia, Asheville and back to Salisbury on the

In heavy freight service schedules are so arranged as to eliminate so far as possible standing time at ends of runs. One case in point is the 15-day operating cycle of a four-unit diesel based on Spencer, N. C. Leaving Spencer in heavy freight service at 6:30 a.m. the first day, this locomotive is in continuous operation to Potomac yard, Va., back to Spencer, through to Atlanta, Ga., Spencer, Monroe, Va., Spencer, Potomac yard, Spencer, Potomac yard, Spencer, Potomac yard, Spencer, Potomac yard, Spencer, Atlanta, Spencer, Potomac yard and back to Spencer on the 15th day—having covered 5,508 mi.

Probably the most complex problem presented by dieselization was that of getting maximum use of road-switchers. Southern recognized early that the road-switcher is a multipurpose unit. Our road-switchers are equipped for two-way operation, i.e., operating controls are arranged to permit operation in either direction, eliminating the necessity for turning the locomotive.

Again taking advantage of flexibility of operation, operating and mechanical people studied local freight and yard switching problems, and came up with variations of the pooling idea. For example, a unit leaves Atlanta on No. 153, local freight, on the first day of an operating cycle. It arrives Columbus, Ga., at 5:30 a.m.; works in the yard for eight hours; leaves on No. 158 at 5 p.m.; arrives Atlanta 11 p.m. Next day the unit the Atlanta-Rome-Atlanta operates local, and that night moves from Atlanta to Rome, Ga., and through to Cleveland, Tenn., where it works in the yard for eight hours, returning to Atlanta on No. 85, the night local. During this cycle of 72 hr 30 min the unit makes 688 mi in local freight service and two 8-hr days in yard service.

A unit leaves Columbia, S. C., in passenger service on train 23 at 11:30 p.m. It goes to Jesup, Ga.; operates in turnaround freight service, Jesup; takes to Savannah and back to Jesup; takes No. 24, a passenger train, from Jesup to Columbia, arriving at 4:25 a.m. It then departs on local freight No. 62 at 6 a.m. for Chester, S. C., returning to Columbia on No. 61 at 12:30 p.m., where the cycle begins again.

Another cycle of interest is the Asheville-Charlotte-Columbia pool. Leaving Asheville, N. C., on train No. 58 at 5:30 p.m. the first day, a locomotive operates from Asheville to Charlotte, N. C., on trains 58-59; thence to Columbia on train 85, arriving at 8:20 a.m. the second day. The locomotive leaves Columbia on train 82 at 12:30 p.m., and returns to Asheville via Charlotte and trains 59-58, arriving Asheville 4:30 a.m. the third day.

An example of how units are provided for outlying points is illustrated

by the following:

A unit leaves Columbia on a Hagood, S. C., turn on Monday. At Kingville, S. C., it is exchanged for an incoming unit, and operates to Rock Hill, S. C., through to Marion, N. C., on Tuesday. Tuesday night it is exchanged for the unit operating the Morganton, N. C., switcher. It works the Morganton job for a week. The following Wednesday it "swaps out" and returns to Rock Hill, where it works one day in the yard, returning to Columbia from Rock Hill, via Kingville, in the same way it was origi-

nally sent out of Columbia. On the Birmingham division, one unit protects passenger train No. 12 out of Birmingham, arriving Atlanta 5 a.m. the next day. This unit then handles the Atlanta-Anniston local, departing at 6:30 a.m.; lays over at Anniston, Ala., and protects the Anniston-Atlanta local the next day, protecting Birmingham division No. 11 to Birmingham, leaving Atlanta 10:45 p.m., arriving Birmingham 5 a.m. The unit then continues south on Birmingham-Mobile passenger train No. 19, leaving Birmingham at 8 a.m. and arriving Mobile, Ala., at 5 p.m. The unit then couples with the unit on the McIntosh switcher, arriving Mobile at 6 p.m., and No. 81's unit, arriving at No. 52 from Mobile at 7:30 p.m. to Alameda, Ala., and No. 51 back to Mobile at 3 a.m. These three units are then split-one protects No. 20 to Birmingham at 7:10 a.m., one the McIntosh switcher, and one goes on No. 80 to Selma, Ala.—D. W. Brosnan, vice-president-operations, South-

CONDUCTED BY G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.



PROMISING RESULTS IN ...

N&W Turbine Locomotive Tests

A bright future for the coal-burning steam-turbine locomotive was predicted by I. N. Moseley, research and test engineer of the Norfolk & Western, at the recent annual meeting of the American Society of Mechanical Engineers at New York.

N&W experimental locomotive No. 2300, after six months of exhaustive road tests, has handled 13 per cent more tonnage than present locomotives with fuel savings up to 30 per cent and only a small sacrifice in overall speed, according to Mr. Moseley. His statements were supported with statistics collected as the locomotive, affectionately called "Big Jawn," hauled daily tonnage trains between Roanoke, Va. and Bluefield and Williamson in the mountainous West Virginia coal fields and western terminals of the N&W at Columbus, Ohio, and Cincinnati.

Continuing interest has been shown in the 2300 since the first announcement of its building over five years ago.

It is a joint project of the N&W and three contracting companies: Baldwin-Lima-Hamilton, Westinghouse Electric and Babcock & Wilcox. The 4,500-hp locomotive is 161 ft, 1½ in. long with tender—the longest single-unit locomotive in the world—and is geared for a maximum speed of 60 mph. Essentially it is a steam electric plant on wheels, combining proved factors of steam, electric and diesel locomotives with a number of entirely new features.

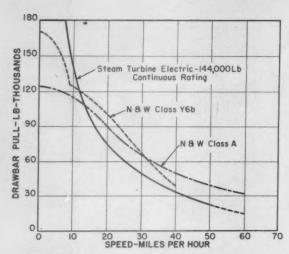
The B&W boiler operates at 600-lb pressure, double that of conventional locomotives, and Mr. Mosely said it has "surpassed all expectations. . . . It is easy to fire, makes sufficient steam for maximum demands, is ex-

- Fuel savings up to 30 per cent
- Load hauled up to 13 per cent greater
- Small sacrifice in overall speed
- No major difficulties in service

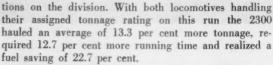
ceptionally responsive to load changes, and can be fired with a clear stack at all steam demands."

In over 19,000 miles of service "no major difficulties have been experienced with the locomotive," according to Mr. Moseley, who listed minor troubles as a clogged stoker, broken steam connections, wrong-sized feed pump governor and difficulty with main turbine controls, allof which have been corrected. He said that 2300's abilities "make it so attractive it is imperative that further study be given to improvements of design that are apparent . . . Simplification of control and elimination of some protective devices have already been found possible. The first cost of locomotives of this type is not known at present," Mr. Moseley explained.

"Jawn Henry" was compared with the N&W's Y6b (2100 Series) engines in mountainous districts and with Class A (1200 Series) engines in flatter territory. An example of its comparison with the Y6b is the report of eastbound tests from Bluefield to Roanoke. The new engine carried a maximum of 144 loaded coal hopper with a train load of 13,073 tons and was given a tonnage rating of 11,500 tons. The rating for the Y6b is 10,300 tons. The turbine's dynamic braking system was of great benefit in negotiating two steep downhill sec-



COMPARATIVE drawbar pulls of three classes of Norfolk & Western Locomotives.

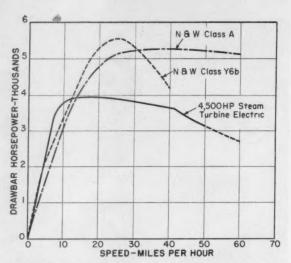


Eastbound from Portsmouth, Ohio, to Williamson, W. Va., both the 2300 and Class A handled the railroad's maximum limit of 175 cars. The turbine was 11.8 per cent slower in average running time but the average fuel cost was 29.9 per cent lower. Tests in both directions on other parts of the line had similar results—the new locomotive pulled as much or more tonnage than conventional engines, used less fuel, but took slightly longer to make the runs.

Engine 2300 is now in pool service where its performance will be carefully watched while economic studies are being made.

Dynamometer Tests

Full-scale dynamometer tests were begun on July 19 and completed on October 2, 1954. The N&W dynamometer car was used in all tests to record drawbar



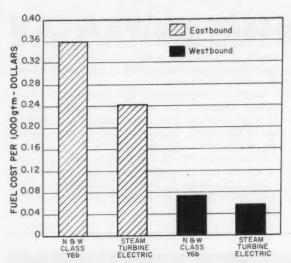
HORSEPOWER characteristics of the steam turbine electric and N&W class A and class Y6b locomotives.

pull, dynamic braking effort, speed, time, location and distance. Temporary plates were placed over the stoker trough in the coal bunker and all the coal burned was dumped from a weighing bucket into an exposed section of the trough in the operator's cab. The coal, which was double-screened 2-in. by 1/4-in. high volatile, was weighed in 200-lb increments, using a balance scale. Representative coal samples were taken during each test and a proximate analysis was run on each sample. The water consumption of the locomotive was measured with the aid of calibration boards at the four corners of the main tender and the auxiliary tender. The auxiliary tender, having a capacity of 16,000 gal, was employed to eliminate water stops between terminals. This is standard practice with the railroad's present conventional steam locomotives.

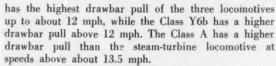
In the mountainous districts the new steam-turbineelectric locomotive's performance was compared with that of the N&W Class Y6b, a 2-8-8-2 Mallet, and in the flat districts with that of the N&W Class A, a 2-6-6-4, single-expansion, articulated locomotive. One of the curves shows the drawbar-pull in relation to speed for the three locomotives. The steam-turbine locomotive

TABLE 1—COMPARATIVE PERFORMANCE OF CLASS Y6b AND STEAM-TURBINE

Locomotives on the Radford District westbound-Roanoke to Bluefield Averages eastbound-Bluefield to Reanoke Steam Steam Class Y6b turbine Difference with Class Y6b turbine Difference with May 1953 Avg. of 3 runs May 1953 Avg. of 3 runs Sept. 1954 Avg. of 3 runs Sept. 1954 Avg. of 3 runs Class Y6b as base Class Y6b as base Actual Per cent Actual Per cent 13.39 No. of revenue cars 129.3 146.3 17.0 127.0 15.0 13.15 112.0 Tonnage (includ. dynamometer and cab) 1,365 13.31 3,1891 3,673 10,255 484 11,620 15.18 Total time, yard board to yard beard, 17.05 3-59 hr-min . 4-22 0-23 9.62 5-05 5-57 0-52 Total time, start to stop, hr-min 4-57 5-23 0-21 7.61 6-22 0-59 18.27 Running time, start to stop, hr-min ... Avg. speed, running time, mph 4-54 0-23 4-31 8.49 4-12 4-44 0.-32 12.70 22.0 20.3 20.5 -2.8 --1.7 23.3 -12.02 -7.72 Running time, 1,000 gtm per hr Total time, 1,000 gtm per train-hr -0.2 -0.08 70.0 74.4 6.29 238.1 237.9 68.7 73.7 5.0 7.28 185.7 177.3 -8.4 -4.52 -1.66 -5.7 Coal as fired, tons 18.93 14.73 12.55 10.89 -13.23 4.2 -22.19 Coal as fired per 1,000 gtm, lb Fuel cost per 1,000 gtm 119.8 80.8 -39.0 -32.55 -22.71 \$0.3600 \$0.2428 \$0.0754 \$0.0583 --\$0.0171 -\$22.68 -\$0.1172 -\$32.56

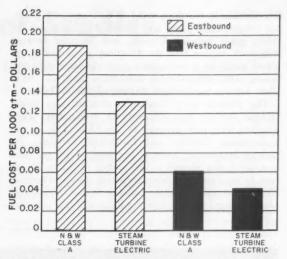


COMPARATIVE unit fuel costs on the Radford district—Westbound, empty; eastbound, loaded.



There is a drop in the turbine locomotive's drawbar pull at speeds above about 41.5 mph. There are no transitions in the traction-motor connections on the turbine locomotive, and only shunting of the traction motor fields. The turbine normally operates at constant horsepower and the speed of the turbine is controlled by the torque requirements of the generators up to the maximum turbine speed of 8,000 rpm, which is controlled by the turbine governor.

The generators reach their maximum voltage after the last stage of field shunting has been made and the turbine has reached the maximum speed allowed by the governor. This point is reached at a locomotive speed of about 41.5 mph. Any increase in locomotive speed will increase the back emf of the traction motors and, since the generators are operating at maximum voltage, the current to the traction motors will be decreased so that constant horsepower is not maintained. This de-



HOW unit fuel costs varied on the Kenova district—Eastbound, empty; westbound, loaded.

crease in power at locomotive speeds above about 41.5 mph is evidenced by a lower steam flow to the turbine as well as a lower boiler firing rate.

The drawbar horsepower curves for the three locomotives show, in a different form, the same general comparison as the drawbar-pull curves. The steamturbine-electric has the highest horsepower available at the drawbar up to about 12 mph; the Class Y6b has the highest drawbar horsepower from 12 to 31 mph. and the Class A has considerable advantage over the other two locomotives at speeds above 31 mph. The unloading of the steam turbine electric at speeds above about 41.5 mph is more apparent in its drawbar horsepower curve. This is a condition that will be corrected on future locomotives.

The tests were conducted on the Radford, Pocahontas and Scioto divisions. The Radford division extends from Roanoke to Bluefild, 100 miles, and crosses two mountain ranges. The ruling grade, westbound, is over Allegheny mountain between Elliston and Christiansburg, being 11.5 miles of 1.32 per cent grade, not compensated. From Walton to Glen Lyn the railroad follows a water grade along New River. The steepest grade on

TABLE 2—COMPARATIVE PERFORMANCE OF THE CLASS A AND STEAM-TURBINE

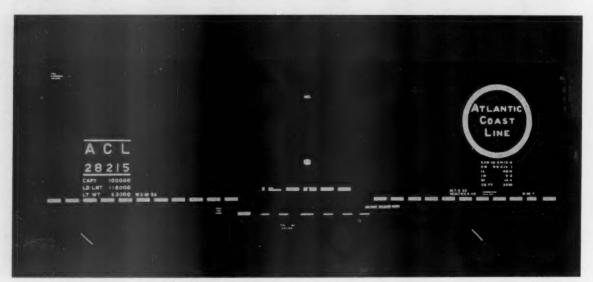
		Locomotives o	n the Keno	va District				
	Averages we	estbound-Willian Steam	mson to Po	rtsmouth	Averages ea	outh to Wi	o Williamson	
	Class A Oct. 1952 Avg. of 3 runs	Oct. 1954 Avg. of 4 runs	Class A	as base Per cent	Class A Oct. 1952 Avg. of 3 runs	Oct. 1954 Avg. of 4 runs	Class A	as base Per cent
No. of revenue cars	175.0	173.3	-1.7	-0.97	175.0	174.5	0.5	-2.86
Tonnage (includ. dynamometer and cab) Total time, yard board to yard board,	16,028	16,422	394	2.46	4,130	4,309	179	4.33
hr-min	3-12	3-47	0-35	18.23	2-42	3-09	0-27	16.67
Total time, start to stop, hr-min	3-31	407	0-36	17.06	3-08	3-40	0-32	17.02
Running time, start to stop, hr-min	3-31	4-03	0-32	15.17	3-08	3-33	0-25	13.30
Avg. speed, running time, mph	31.6	27.4	-4.2	-13.29	36.3	32.0	-4.3	-11.85
Running time, 1,000 gtm per hr	506.0	449.7	56.3	-11.13	149.9	137.8	-12.1	-8.07
Total time, 1,000 gtm per hr	504.6	444.2	-60.4	-11.97	149.9	133.7	-16.2	-10.81
Coal as fired, tons	18.4	13.29	-5.11	-27.77	15.10	11.03	-4.07	-26.95
Coal as fired per 1,000 gtm, lb	20.7	14.6	-6.1	-29.47	64.5	45.2	-19.3	-29.92
Fuel cost per 1,000 gtm	\$0.0612	\$0.0431	-\$0.0181	-\$29.58	\$0.1906	\$0.1336	-\$0.0570	-\$29.91

this division is the three miles of 1.60 per cent grade, not compensated, going into Bluefield. This is not the ruling grade between Roanoke and Bluefield because it is much shorter than the Allegheny grade and is operated partly as a momentum grade. (Comparative test results with steam-turbine locomotive and the N&W Class Y6b on the Radford division appear in Table 1.)

The 100-mile long Pocahontas division, also mountainous, extends from Bluefield to Williamson. When handling the same tonnage as the Class Y6b on the mountainous Radford and Pocahontas divisions, the turbine locomotive made 4 per cent to 13 per cent less speed, but showed a fuel saving of 20 to 30 per cent. In these two mountainous districts the steam-turbine-electric was able to handle between 18 and 27 per cent more tonnage, varying with the districts. With increased

tonnage, the speed was 13 per cent less and the fuel saving, based on cost per ton-mile, was 19 to 37 per cent. This fuel saving varied with the proportion of the district allowing fuel capacity operation. The longer the turbine locomotive operated at full load, the larger the relative fuel saving.

On the Scioto division, the Kenova district, the steam-turbine locomotive was tested and compared with the Class A locomotive. This district extends from Williamson to Portsmouth, Ohio, 112 miles. The ruling grades are at the approaches to the Ohio River bridge at Kenova, the westbound ruling grade being $2\frac{1}{2}$ miles of 0.3 per cent compensated grade and the eastbound ruling grade being $\frac{1}{2}$ miles of 0.66 per cent grade. Test results on the Kenova district are summarized in Table 2.



REFLECTIVE lettering on ACL freight cars reduces night hazards at grade crossings.

ACL Crossing Hazards Reduced

... BY USING REFLECTIVE LETTERS

Night accidents at grade crosings are said to occur more frequently as the result of motor vehicles running into the side of a train which blocks the crossing than as the result of the locomotive hitting vehicles on the crossing. There have been cases where a train has been hit by an automobile some fifty cars from the locomotive, resulting in the death of all occupants of the motor vehicle. When a train is made up of flats, gondolas, or pulpwood cars, its visibility to the driver of a highway vehicle may be extremely limited and confusing.

As early as 1948 the Atlantic Coast Line began exploring the field of reflectivity as a protective measure against such hazards of nighttime operation. The Prismo Safety Corporation was authorized to reflectorize several box cars of that road. The Prismo reflective material was ap-

plied to the large medallion, the numbers, and the railroad initials of these cars, and a dashed line was run along the bottom of each car. Subsequently the same treatment was applied to several hundred additional cars, and today all ACL rolling stock, except passenger cars, is reflectrozide. Greater safety is said to have resulted on the road and at highway crossings.

The reflectorized cars have offered other advantages in night operation in yards. Car numbers are more easily identified when the cars are in motion, and the hazards from loose cars running down a track are reduced.

The ACL has also applied Prismo reflective material to station signs, whistle posts, mile posts, and all switch markings.

ICC Advises Merger Studies

Annual report says prospective benefits could stand more analysis—Still counsels caution on railroad freedom in rate and service matters

The railroads might well make "more analyses of the benefits which consolidations might confer," the Interstate Commerce Commission said in its sixty-eighth annual report.

The commission also told Congress that it saw no reason "at this time" to "change or enlarge upon" statements in previous annual reports to the effect that proposals to give railroads more freedom in rate and service matters require "more searching analysis of the possible advantages and disadvantages . . . than any which has thus far come to our attention."

The report went to Congress January 10. In the usual form, it was a 131-page document which reviewed commission activities and transport developments from November 1, 1953, to October 31, 1954.

It contained 21 legislative recommendations, as set out in the accompanying "box." All but three of them were repeaters from previous annual reports or other commission presentations to Congress. Meanwhile, the commission dropped the recommendation calling for enactment of the so-called "radio-rules" bill, which it had been making for several years. This proposal was designed to give the commission authority over railroad installations of radio and other train-communications.

Reporting on its work under the 1949 amendments which extended the Interstate Commerce Act's reporting requirements to carrier associations, such as the Association of American Railroads and the American Short Line Railroad Association, the commission announced that it will not require regular reports from such associations. This decision came out of the commission's study of responses to its January 12, 1950, order requiring the associations to make special reports on their status as of August 2, 1949.

"We have concluded," the annual report said, "that it is unnecessary regularly to require any such reports and that the purposes of the amendments will be served if these reports are called for whenever conditions render such action appropriate."

The "potentialities of consolidations" were among "possibilities" mentioned by the commission after it had said that a "great deal more" can be accomplished by the railroads in the way of reducing costs and improving service. At the same time, the commision recognized that "much has been done." The report's further discussion of this matter included the following:

"There is, for one thing, an uneven degree of acceptance of advances in physical facilities, and in practices, even of those which do not involve expenditures that may try the financial resources of some railroads. A readier and more widespread adoption of what particular railroads have found to be good would do much to ease the future path of the industry."

Along with the merger studies, the commission suggested "cooperative investigations of the possibilities of effecting economies through unifications of terminal facilities." The report went on to note that abandon-

ments the commission has authorized comprise an aspect of the "adapation of railroad properties to present conditions"

Prospective economies from pooling arrangements were mentioned next, and the commision proceeded to question whether the railroads have explored pooling possibilities in the light of act's present provisions.

possibilities in the light of act's present provisions.

"There also is a question," the report added, "whether surveys would not indicate the possibility of eliminating or downgrading certain tracks which closely parallel the tracks of other railroads, through greater use of the long-established device of trackage rights. The savings where opportunities of this kind exist could be of material benefit, without undue sacrifice of the interests of any of the railroads involved."

In giving again its counsel of caution on railroad freedom in rate and service matters, the commission said it would express specific views on any such proposals which take concrete form. For its decisions on such issues, it had this defense: "We have applied the terms of the Interstate Commerce Act, including the statement of national transportation policy, according to our best judgment and have endeavored to make our interpretations clear in a long line of decisions."

The discussion of "interagency competition" recalled the attention given in last year's report to the threat to public transportation posed by "buy and sell" arrangements under which "so-called private carriage is a subterfuge for engaging in [unregulated] public transportation." The commision still considers this problem "acute," and it would welcome an opportunity to explain the implications to Congress and "indicate wherein legislative changes are needed to eliminate practices which we regard as unlawful under the act."

The report later on expressed again the commission's opposition to legislation which would end its power to

YEAR OF ADJUSTMENT, STRAIN AND MUCH TALK

"This year covered by this report has been one of adjustment by carriers and shippers to changed general economic conditions, of continued strain in carrier relations, and of much public discussion of basic transportation questions. . . Carriers have watched with close attention the current analyses of experts in their appraisals of the many indexes of changes in business activity.

"On the other hand, a great modernization program, employing many advances in technology, has been in progress in nearly all areas of transportation, and carriers, especially the railroads and motor common carriers of general freight, needed as great a volume of traffic as possible in order to reap the maximum advantage in lower unit costs which the new facilities made possible and to support the investments so made."

ICC's LEGISLATIVE RECOMMENDATIONS

Of the 21 legislative recommendations made by the ICC in its annual report, all but three were repeaters from previous annual reports or other commission presentations to Congress. The three newcomers recommended:

1. That section 10 of the Clayton Antitrust Act be amended to exempt therefrom transactions between parent corporations and their wholly-owned subsidiaries. The section now forbids a carrier from purchasing from another company with which it has common officers, except by competitive bidding.

common officers, except by competitive bidding.

2. That the U. S. Code be amended to provide that suits to set aside commission orders be brought against the commission with the government, through the attorney general, having the right to intervene. This recommendation was made "in view of the fact that in recent years the United States has declined to defend many orders of the commission, and in some cases confesses error."

3. That tightening-up amendments be added to section 409 which deals with terms and conditions under which forwarders may use the services of common-carrier truckers.

Among the repeaters was one which recommended that Congress try again to amend section 22 to preclude the filing by the government of complaints assailing rates granted to government agencies pursuant to that section. Legislation along that line was enacted last year only to be vetoed by President Eisenhower.

Other repeaters recommended again that the Act's car-service provisions be made applicable to express companies; that the commission be given emergency powers over equipment rentals; that car-spotting allowances to shippers be prohibited unless specifically authorized by the commission; that the recordinspection provisions of section 20 (6) be extended

to make them applicable to "persons" who furnish locomotives (as well as cars) to railroads; and that section 20 (a) (which requires commission approval of security issues) be broadened to embrace any contract covering acquisition or lease of equipment "not to be fully performed within one year" of its date.

to be fully performed within one year" of its date.

Also, that section 20a(12) be amended "to permit more extensive use of competitive bidding in the marketing of securities"; that section 20b be amended to add safeguarded arrangements under which controlled or controlling stockholders of a railroad undergoing voluntary reorganization would be permitted to vote on its revamp plan; that the Transportation of Explosives Act be "completely rewritten in the light of important developments . . . in the 32 years since the last revision"; and that the Locomotive Inspection Act be amended to eliminate provisions relating to the appointment of a director and assistant director of locomotive inspection and the detailed requirements relating to the employment of inspectors.

Other proposals were that provisions for revocation of water-carrier certificates or permits be added to Part III; that reparations provisions be applied to truckers and forwarders; and that the commission be given the same emergency powers with respect to truckers and water carriers that it now has with respect to car service by railroads.

The five other recommendations amend Part IV, which covers regulation of forwarders. They would end the exemption for forwarders of used household goods; give the commission authority to revoke the exemption of shipper associations which did not qualify as "bona fide"; require certificates of convenience and necessity as a prerequisite to entering the forwarder business; extend the commission's regulatory authority to mergers and acquisitions of control of forwarders; and liberalize section 411(c) which now probibits carrier officers from having an interest in forwarders.

prohibit trip-leasing of motor trucks. Much support for such legislation has come from agricultural interests, but, as to their stake, the commission had this to say: "Authorized carriers may 'trip-lease' vehicles used in transporting agricultural commodities under all conditions which have any possible relation to the hauling of 'exempt' commodities and may use them to perform transportation which such carriers are authorized to perform."

The commission devoted $3\frac{1}{2}$ pages to its discussion of railroad passenger operations, calling the deficit from such operations one of its "more vexing problems." While it noted that several things were being done to deal with the problem, the commission found it "clear that additional measures must be found to reduce the losses . . . if the rail passenger service is to be available for national defense as well as for peacetime use."

As to 1953's passenger-service deficit, which was put at about \$705 million, the commission said that about \$8 million of the \$63 million increase over the 1952 deficit was due to changes in the apportionment formula. The revised formula allocated \$8 million more of the common expenses to passenger service than would have been the case under the previous apportionment. The revised formula is being studied by the commission's Bureau of Transport Economics and Statistics working with a committee of the carriers.

The report's discussion of car supply said the adequacy of the box-car fleet was "of concern" to the commission "because, since January 1954, box car ownership has progressively deteriorated while the number of unserviceable cars has increased." The latter situation "could be serious if an emergency arises," the commission said later on in reporting on the work of its Bureau of Safety and Service.

There also was a reference to inspections of signaling facilities which "have resulted in bringing to the attention of the railroad managements, for necessary corrective action, a large number of unsatisfactory maintenance conditions which have been found to exist." Meanwhile, the year under review saw no filings of cases alleging violation of the act's section 25, which embodies the so-called signal inspection provisions.

The report's review of traffic and earnings of transportation agencies showed that carriers under commission jurisdiction reported, for the 12 months ended June 30, 1954, gross revenues of \$17,097 million. The railroads accounted for \$10,320 million of this. That reflected a drop of 5.89% below the railroad total for the 12 months ended June 30, 1953, while the overall total was off only 1.28%.

Meanwhile, the truckers' "share," at \$4.807 million, was up 8.82%, while the water carriers, at \$382 million, gained 12.3%. The pipe-line total was \$604 million, up 7.36%.



LOOSE NATURE of material encountered during part of the tunneling operation is shown by this view. Wet conditions were also a problem.



MOIRS POND side of the embankment as seen during driving of the three tunnels. Note tunnel liner plates piled along track shoulder.

TO OBTAIN LARGER WATERWAY . . .

Tunnel Through Unstable Fill

When an existing culvert proved inadequate to handle the water flow through a double-track embankment on the Canadian National, three 7-ft tubes were installed under extremely difficult conditions

By W. LENCO

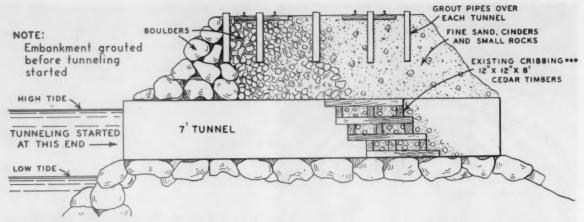
Bridge Engineer, Atlantic Region Canadian National Moncton, N. B.

The practice of tunneling under railroad embankment to provide waterway openings was recently used to good advantage in solving a flooding problem on the main line of the Canadian National near Halifax, N. S. Because of conditions encountered in the fill the tunneling work was carried out under extreme difficulties, but

was successfully completed under heavy railroad traffic.

The railway line at this point skirts the western edge of the Bedford Basin, a large tidal inlet on the Atlantic Coast and one of the largest natural harbors along the eastern seaboard. Nearby, at Moirs Pond, the tracks are supported on a causeway separating the pond from the basin. On the shores of the pond is a manufacturing plant whose lower floors are only slightly above high tide.

Before 1906 the causeway carried a single-track line,



UNSTABLE material, tidal movements and old cribbing combined to complicate the work of driving tunnels through the fill.

but in that year a second track was added. Since the annular spaces in the embankment were sufficient to handle the run-off and the tidal flow it was not considered necessary originally to provide a waterway opening. However, in about 1910 a 7-ft by 8-ft concrete box culvert was installed to carry the stream run-off. Since the fill material placed when building the second track consisted of stone, there continued to be some drainage through the embankment to supplement the culvert.

After World War II, in connection with a track-improvement program, the causeway embankment was widened with material taken from cuts. This material included a considerable percentage of fines. The effect was to reduce the permeability of the embankment to the extent that during several periods of high run-off the concrete culvert could not handle the increased flow. When this occurred, the higher water level in the pond caused the lower floors of the manufacturing plant to be flooded. Occurrences of this nature were especially prevalent in 1953.

To secure better run-off various plans were considered for opening an additional or larger waterway through the fill. The railway advertised and invited tenders on alternative plans. As a result, engineers of Armco Drainage & Metal Products, Inc., made an inspection of the site and submitted a bid based on tunneling through the fill. Since this bid was lower than bids or estimates based on other methods the contract was awarded to Armco. The work included the installation of three tunnels, each 7 ft in diameter, whose inverts average only 1½ ft above low water. The tunneling method was accepted on the condition that the fill material could be consolidated by cement grouting.

How Work Was Done

In October 1953, a crew moved onto the job site with equipment. The first operation consisted of driving 2-in grouting pipes to a depth of 4 to 5 ft. A row of these pipes was driven over each tunnelsite and sand-cement grout pumped in until the annular spaces in the bank were fairly well filled.

The large boulders were then broken away on the basin side and sectional rings of Armco tunnel liner

plates set up to start tunneling. The material encountered in the first 30 ft consisted mostly of boulders and rocks which had been well consolidated with grout, so that the work here was practically like tunneling through concrete. The foreman on the job commented that "it was a painfully slow operation, but safe."

The work was interrupted twice a day by tides, and even though the crew labored in 18 to 20 in. of water it could only work four to five hours out of twelve. Ebb tides normally left about two feet of water in the tunnels, and operations at times had to be halted entirely from a few days to as long as a week.

Splints and Hay Used

Despite these and other handicaps, including occasional storms, the tunneling progressed until the crew reached the fine material and cribwork indicated in the drawing. Since the fill material in this vicinity was not porous enough to accept grout in any effective quantity, troubles were experienced in tunneling through it. The fill was of a very loose nature and it was necessary to keep the top three tunnel liner rings ahead to create a more sloping face. This made it hard to hold the grade, but the problem was partly solved by using a needle beam and

The cribbing had been constructed of cedar timbers and filled with fine shale rock, cinders and sand. Chopping through it was a difficult job requiring much time. Furthermore, when the cribwork was encountered it became even more difficult to hold the fine sand and cinders comprising the material above the tunnel. The use of hardwood splints and hay helped to overcome this difficulty. At no time was there danger to passing trains, of which on some days there were as many as forty.

By February 1954, two of the three tunnels were opened and half of the third completed. Because of the severe weather prevailing at that time, it was decided that the two open tunnels could accommodate the anticipated run-off till better weather arrived.

The crew returned in June and the third tunnel was soon completed. Everybody concerned looked upon the installation as a very satisfactory solution to an aggravating problem.

Equipment & Supplies

(Continued from page 10) tions; double bedrooms, compartments and drawing rooms; and 52-passenger reclining seat coaches. Among the planned innovations will be lounge roofs partially panelled in safety glass to permit overhead visibility, and smoking and reading lounges in the centers of the coaches. Deliveries are scheduled to be completed this year.

SPECIAL

The Lackawanna has ordered 100 motor truck trailers from the Fruehauf Trailer Company. The 33-ft trailers, for use in piggyback service, will have tandem axles, curb side doors and extra heavy floors. Fifteen units will be insulated. Delivery is scheduled for February.

Organizations

TAA 20th Anniversary Meeting February 1-2

The Transportation Association of America will hold its annual, and 20th anniversary, meeting at the Palmer House, Chicago, February 1-2. The program is as follows:

FEBRUARY 1

Noon and afternoon—Meeting of board of directors.

FEBRUARY 2

10:30 e.m.—Annual member meeting.
12:30 p.m.—Luncheon; address by Secretary of Commerce Sinclair Weeks.
2 p.m.—Panel discussion. based an report of the President's Cabinet Committee on Transport Policy and Organization, with TAA President George P. Baker as moderator and the following participants: William T. Faricy, president, Association of American Railroads; Earl D. Johnson, president. Air Transport Association of America; John V. Lawrence, managing director American Trucking Associations; Gordon

NATIONAL RAILWAY APPLIANCES ASSOCIATION

Manufacturers who have not yet arranged to display their products in the exhibition of the National Railway Appliances Association, to be held in the Coliseum, Chicago, March 14-17, can still make arrangements to do so. Twelve desirable booths were reported as still available when this issue went to press. This exhibit will be held in conjunction with the annual conven-tion of the American Railway Engineering Association at the Palmer House.

Interested manufacturers should address Lewis Thomas, director of exhibits, 59 East Van Buren street, Chicago 5.

C. Locke, general counsel, Committee for Pipe Line Companies; Giles Morrow, president, Freight Forwarders Institute; Lee J. Quasey, chairmon, National Agricultural Cooperative Transportation Committee, 1954; Walter A. Schmidt, president, Investment Bankers Association of America; Lowe F. Siddons, president, National Industrial Traffic League; and Chester C. Thompson, president, American Waterways

L. B. Young, president of Pacific Motor Transport and assistant to pres ident of the Southern Pacific, will speak on "piggyback" service at a dinner meeting of the Women's Traf-fic Club of San Francisco, at 6:30 p.m., January 20, at the Huntington Hotel

Securities

Authorizations

CHICAGO & EASTERN ILLINOIS.—To issue \$15,350,040 of 5% income debentures, due January 1, 2054, to be exchanged for 383,751 shares of class & stock, por value \$40, on the basis of one debenture in the principal amount of \$40 for each share (Railway Age, September 27, 1954, page 27).

To issue \$390,000 of first mortgage, 33/4% series B bonds of a \$1,244,000 prior authorization (Railway Age, May 3, 1954, page 48). Division 4 authorized sole of the securities, at 34% interest, for 91.5, which would make the cost of the proceeds to the road approximately 4.25%. The C&EI would use the proceeds to pay a demand note for \$500,000 and to augment working capital.

NEW YORK, NEW HAVEN & HARTFORD.—To

NEW YORK, NEW HAVEN & HARTFORD.—To assume liability for \$3,345,000 of equipment trust certificates to finance in part purchase of 10 electric locomotives at an estimated total cost of \$4,477,000 (Railway Age. December 20, page 39). Division 4 approved sale of the securities at 3% interest for 98.7593—the bid of Halsey, Stuart & Co.—which will make the annual cost of the proceeds to the road approxi-

mately 3.22%. The certificates were reoffered to the public at prices yielding from 1.75 to 3.25%, according to maturity.

This road's authority to pledge its first and refunding mortgage 4% series A bonds, having a market value of \$1,000,000, as security for a short term note which was to have matured December 29, 1954 (Railway Age, December 20, page 39) has been amended by the ICC to permit the New Haven to pledge and repledge the securities as collateral for any extension or renewal of its note.

TEXAS & PACIFIC—To extend librality for

renewal of its note.

TEXAS & PACIFIC.—To assume liability for \$1,350,000 of equipment trust certificates to finance in part purchase of 200 box cars and 15 cabooses at an estimated total cost of \$1,883,454 (Railwey Age, December 20, 1954, page 39). Division 4 approved sale of the securities at 2½% interest for 98.137—the bid of Salamon Bros. & Hutzler and three associates—which will make the annual cost of the proceeds to the road approximately 2.52%. The certificates were reoffered to the public at prices yielding from 1.4 to 2.7%, according to maturity.

Dividends Declared

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—common, \$5, semiannual, payable Jan-uary 31 to holders of record January 13.

MICHIGAN CENTRAL.—\$25, semiannual, able January 31 to holders of record Ja

NEW YORK CENTRAL.—50¢, payable March 10 to holders of record February 4.

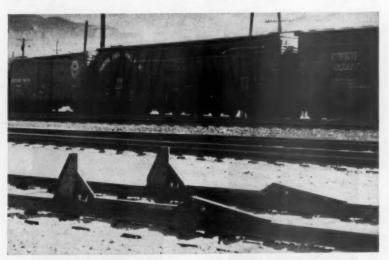
NEW YORK, NEW HAVEN & HARTFORD.—\$5. referred, \$1.25, quarterly, payable January 28 b helders of record January 14.

SARATOGA & SCHENECTADY.—\$1.50, payable January 15 to holders of record January 3. WESTERN PACIFIC.—75¢, quarterly, payable February 15 to holders of record February 1.

Applications

BANGOR & AROOSTOOK.—To issue 7,089 shares of \$50-par common stock as a dividend to stockholders. The B&A advised the ICC there are 141,792 shares of its common stock now outstanding, with a total par value of \$7,089.600. The dividend would be distributed on a 1-to-20 basis, with cosh to be paid for fractional holdings (Railway Age, December 27, 1954, page 16).

READING.-To assume liability for \$1,350,000



LOADED CARS traveling up to mph can be stopped in about 30 ft with this "skate" that is being used on spur tracks by the Ogden Union Railway & Depot Co., Ogden, Utah. Rail joints behind the "skate" are Rail joints behind the "skate" are welded, replacing angle bars. The number of welded joints depends on the speed and weight of cars to be handled by the device. Four wheels

car run up onto the "skate" which, by its length, multiplies the friction applied to the rail to several times that of one car sliding all wheels. This brakes the car to a quick though gradual halt. The "skate" is then reset automatically when a car is pulled back to the first joint. The device is manufactured by the Hayes Derail Manufacturing Company.

of equipment trust certificates to finance in part 200 70-ton gondola cars to be built by the Bethlehem Steel Company at an estimated total cast of \$1,703,000. The certificates, to be dated February 1, would mature in 30 semiannual installments of \$45,000 each, beginning August 1 1955. They would be sold by competitive bidding, the interest rate to be determined by such bidding.

Security Price Averages

	Jan.	Prev. Week	Last Year
Average price of 20 repre- sentative railway stocks Average price of 20 repre-	85.91	86.20	58.40
sentative railway bonds	97.88	98.10	91.55

Supply Trade

Henry H. Helmbright, head of the railroad lighting section of the application engineering department of General Electric Company's Lamp division, has retired.

H. E. Ehlers, Jr., industrial sales manager, Joseph Dixon Crucible Company, has been promoted to general sales manager. He has been succeeded by R. C. Brock, Pacific Coast district manager, who, in turn, has been succeeded by D. C. McMillin, sales representative at San Francisco.

Franklin E. Lowance has been appointed director of research and engineering for Westinghouse Air Brake Company, to coordinate research and engineering activities of all subsidiaries and divisions.

Dr. Lowance was formerly associate technical director at the U. S. Naval Ordnance Test Station, China Lake, Cal

Roger Q. Milnes, vice-president and sales manager of Dearborn Chemical Company's western railroad division, has retired. Samuel C. Johnson, vice-president eastern railroad division, has been appointed vicepresident, railroad department, with responsibility for all railroad sales.

D. G. Gibson, assistant district manager of Timken Roller Bearing Company's Dallas territory, has been appointed district manager, succeeding the late Harry Trump.

Charles E. Impey has been appointed executive engineer of the Vapor Heating Corporation at Chicago.

W. E. Olds has been named vicepresident — sales of the Standard Railway Equipment Manufacturing Company, succeeding J. E. Vaughn, deceased. H. L. Kent and



W. E. Olds

Arthur A. Frank, Jr., have been appointed assistant vice-president-district sales manager, of the Eastern district at New York and the Western district at Chicago, respectively.

OBITUARY

J. E. Vaughn, 54, vice-president—sales of the Standard Railway Equipment Manufacturing Company, at Chicago, died there December 20.

Harry W. Trump, 63, southwest district manager of the industrial division of Timken Roller Bearing Company, died December 25 in Baylor Hospital, Dallas, Tex.

Railway Officers

BURLINGTON—H. A. Aalberg, chief engineer at Chicago, has retired after 44 years of service. His successor is E. J. Brown, assistant chief engineer, who in turn has been succeeded by H. F. Kimball, hydraulic engineer. F. H. Cramer, bridge engineer at Chicago, and G. W. Gallier, assistant chief engineer—Lines East, also have retired. M. L. Johnson, assistant bridge engineer, replaces Mr. Cramer, while Baron Laubenfels, principal



E. J. Brown

assistant engineer, succeeds Mr. Gallier. W. E. Spade, assistant to bridge engineer, becomes assistant bridge engineer. L. R. Hall, roadmaster at Hannibal, Mo., has been named district engineer, maintenance of way, at Omaha, to replace S. J. Owens, who be-



HALTON A. COWARD (left), vice-president of the Budd Company, and ERNEST R. SCHMIDT (center), vice-president in charge of manufacturing, have been appointed





executive vice-presidents; and J. G. RICHARD HECK-SCHER (right), commercial products manager, a vice-president.

comes assistant to chief engineer at Chicago. W. G. Farrell, Hannibal division engineer, has had his duties extended to the Ottumwa division, where he succeeds F. L. McLean, retired. Mr. Farrell's headquarters will be located at Burlington, Iowa.

George A. Meier, general agent at Milwaukee, has been transferred to Des Moines, Iowa, succeeding Arthur L. Johnson, who has retired after 51 years of service. Mr. Meier's successor is D. W. Hubert, traveling freight agent at Chicago, who in turn has been replaced by Robert N. Cooper, city freight agent. Kenneth R. McCall, city fuel agent, has been promoted to district fuel agent at Chicago. Guy M. Ekberg, traveling freight and passenger agent at Butte, Mont., has been named general agent there to succeed David F. Gregg, retired, James P. Cassels transfers from Scottsbluff, Neb., to replace Mr. Ekberg.

Neb., to replace Mr. Ekberg.

J. K. McCann, assistant general storekeeper, has been promoted to general storekeeper, with headquarters as before at Chicago, succeeding the late R. A. Schuff (Railway Age, January 3).

G. J. Zimbleman, traveling storekeeper, succeeds Mr. McCann, and in turn is replaced by J. J. Jirousek, district storekeeper. The jurisdiction of W. E. Bird, district storekeeper at Hannibal, has been extended to St. Joseph, Mo., succeeding P. W. Bell, who has been transferred to Lincoln, Neb. R. W. Richards has been anpointed division storekeeper at Hannibal.

Dr. O. H. Horrall, chief surgeon, has retired after 32 years of service. The position of chief surgeon has been abolished.

Mr. Brown joined the Burlington in 1918 as clerk at Chicago. After advancing through a number of minor positions he was appointed district engineer at Galesburg, Ill., in 1939, assistant superintendent in 1942, and engineer of track at Chicago in 1943. He became assistant chief engineer in 1953.

DENVER & RIO GRANDE WESTERN.—Theodore A. White, assistant general attorney at Denver, has been named general attorney. Mr. White's successor is William G. Prescott.

JERSEY CENTRAL.—Vincent E. McGowan, attorney, has been appointed assistant general solicitor, and has been succeeded by Elmer T. Pettengill, assistant manager labor relations. Clifford S. Strang, assistant to vice-president and general manager, succeeds Mr. Pettengill.

LOUISVILLE & NASHVILLE.— B. R. Hutcheson, assistant to treasurer, has been appointed assistant treasurer, succeeding W. A. Coe, appointed treasurer.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—F. A. Burke has been appointed general traffic mana-

ger. His former position of freight traffic manager and the position of vice-president—traffic, formerly held by William K. Tate, now with the New Haven, have been abolished. Mr. Burke joined the NC&StL as messenger in 1903, and a year later was ap-



F. A. Burke

pointed clerk in the general freight office. From 1922 to 1936 he served as commerce agent; in 1936 he was promoted to assistant general freight agent; in 1939 to general freight agent, and in 1953 to freight traffic manager.

NEW YORK CENTRAL.—Paul J. Schweibinz, general coal freight agent at Pittsburgh, has been appointed general freight agent at Cleveland. E. M. Johns, manager industrial development at Cleveland, has been named assistant general freight agent sales and service, at the same place, and has been succeeded by Douglass Campbell, assistant to freight traffic manager there. George D. Meixner has been appointed assistant to freight traffic manager at Cincinnati. John Dan, general agent at Toledo, has been transferred to Cleveland and has been succeeded by Earl W. Beck. Carl J. Hucabee has been named general agent at St. Louis, succeeding Elbert R. Ferree, retired.

J. H. Russell, district supervisor air brakes and steam heat at New York, has been appointed engineer brake equipment, with system jurisdiction over engineering and maintenance of brake and steam heat equipment. L. D. Hays and A. J. Serieno have been appointed assistant engineers brake equipment, at New York.

NICKEL PLATE. — Robert G. Wood, district passenger agent at Cleveland, has been appointed assistant general passenger agent at Chicago, succeeding the late W. J. Robert D. Dvsert has been appointed district passenger agent at Cleveland, succeeding Mr. Wood.

NORTHERN PACIFIC.—Stephen H. Barlow, assistant engineer of track, has been appointed system engineer of track at St. Paul, succeeding



SOUTHERN PACIFIC. — J. W. Murphy, special representative, who has been appointed special assistant to vice-president at San Francisco (Railway Age, November 1, page 72).

G. L. Smith, who retired December 31 after 44 years of service.

C. E. Tollas has been named freight claim agent, succeeding Frank J. Sollar, retired.

PEORIA & PEKIN UNION.—L. R. Barnewolt has been appointed general agent.

PITTSBURGH & LAKE ERIE.—Frank R. Paisley, chief engineer has retired and has been succeeded by Earl G. Brisbin, who has jurisdiction over engineering and maintenance of way departments. A photograph and sketch of Mr. Brisbin's career were published in Railway Age February 22, 1954, at the time of his appointment as engineer maintenance of way.

SOUTHERN PACIFIC.—Jurisdiction of E. W. Torian, whose promotion to assistant to executive vice-president at Houston, Tex., was reported in Railway Age January 3, page 27, covers only Southern Pacific Lines in Texas and Louisiana. J. M. Hatcher and J. J. Deasy, whose appointments as superintendent of transportation and assistant superintendent of transportation, respectively, were reported in the same issue, are both headquartered at San Francisco and have jurisdiction from El Paso west.

OBITUARY

K. P. Chinn, 61, retired assistant executive vice-president of the Texas & New Orleans, died December 26 at Houston, Tex. Mr. Chinn's retirement was announced in Railway Age September 20, 1954.

Joseph H. Miller, 64, general counsel of the Wabash, died January 2 at St. John's Hospital, St. Louis.

E. A. Craft, 61, executive vicepresident of the Texas & New Orleans (Southern Pacific Lines in Texas and Louisiana), died December 20.



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2	î	Track wrench, Raco		700.00
2 3 4 5 6 7	i .	Impact Air wrench, Chicago Pneumatic		300.00
4		Electric Vibratory Tie Tampers, Jackson		250.00
	4	Pneumatic Spike Drivers, Chicago Pneumatic #11	17	250.00
4	3	Rail saws, Racine		300.00
7	2	Air Compressors rail mounted, self-propelle	d.	
,	4	Jaeger 125 c.f.m		.000.00
	8	Push cars, 5 ton capacity, Northwestern		135.00
	1	Ballast Regulator with plow, Kershaw Mfg. Con	g-	
		pany		000.00
10	1	Locomotive, standard gauge, 3 ton Brookville		250.00
11	1	Hydraulic spike puller, Nordberg		450.00
12	1	Adzing machine, Nordberg		750.00
13	1	Tie Borer, Raco		350.00
12 13	A	Kribbers, 40" Wheel with 3rd position carriage		
	7	Kershaw Mfg. Company		250.00
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Department	City

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Freight Operating Statistics of Large Steam Railways—Selected Items

				Locomot	ive-Miles	Car-	Milea	Ton-miles (tho	usands)		Road-loco	s. on line	
	Region, Road and Year	Miles of	Train-	Principal		Loaded (thou-	Per	Gross N excl. locos. re-	et and	Serv	iceable		per cent
	g (Boston & Maine1954	operated	miles	help~r 253,253	Light	sands)	tooded	& tenders no	n-rev.		red Stored	B.O.	B.O.
1	1953 N. Y., N. H. & Htfd1954	1,664	249,654 260,191	266,065	7,594 10,188	8,996 10,065	68.0 68.6	631,028 259	0,393 0,977	72 75	1 2	5	4.9
2	一定 (1953	1,746 1,749	251,139 314,766	251,259 315,025	15,739 18,168	11,405 12,460	69.3 68.8	690,823 286 765,434 322	,766	91 92	**	6	3.2 6.1
	Delaware & Hudson1954 1953	793 793	193,230 211,096	198,269 217,148	9,910 11,752	9,617 10,383	66.6	709,918 379	0,425 0,244	37 45	**	6	14.0 6.3
	Del., Lack. & Western	962 962	265,805 278,145	279,809 294,146	20,966 21,972	12,166 12,661	68.5 69.7	818,312 365	,879 ,531	65 67		1	1.5
0,0	Erie	2,225 2,235	571,687 643,026	575,466 647,791	17,394 29,159	33,572 37,115	70.2 70.1	2,010,691 787 2,246,926 893	,824	160 165		4	2.4
Bee	Grand Trunk Western1954 1953	952 952	239,268 261,654	248,650 270,763	2,291 1,866	8,288 8,536	61.8	586,701 239	,278 ,748 ,256	54 63	6 7	23 10	27.7 12.5
l'oe	Lehigh Valley	1,150 1,151	212,351 235,238	215,854 240,022	5,930 8,564	11,204 11,677	65.6	800,357 366	,852 ,109	33	4	i	2.9
0	New York Central	10,663 10,667	2,343,412 : 2,713,654 :	2,776,803	81,317 105,406	97,587 109,644	60.6	6,987,064 3,084 7,868,075 3,497	,876	518 734	187 42	113 168	13.8 17.8
200	New York, Chic. & St. L1954 1953	2,161 2,161	709,843 797,022	736,152 825,383	7,016 8,180	29,177 31,771 2,509	66.5	2.183,357 985	,593 ,205	143 211	37 12	33	18.6 12.9
	Pitts. & Lake Erie	221 221	53,559 78,300	53,695 81,476	106	3,532	61.2	301,479 184	,236 ,501	16 21	7 7	6	4.2 17.6
	Wabash1954 1953	2,381 2,381	491,874 593,292	492,431 594,730	6,521 7,505	22,834 26,171	69.1 67.0		,650 ,754	103	19	24	16.7
	Baltimore & Ohio1954 1953	6,077	1,490,375 1	1,637,435 1,868,414	146,277 195,444	61,849 70,739	62.8 64.0	4,651,540 2,227 5,285,176 2,592	,192 .645	434 515	50 23	116 104	19.3 16.2
ion	Bessemer & Lake Eric1954 1953	209	43,662 60,206	46,775 64,900	136 337	2,378 3,503	64.6 63.0	270,922 177	,938 ,028	13 17	3 14		**
Region		613 615	126,459 133,291	127,086 138,477	5,459 10,174	4,840 5,345	66.4	354,356 180	,072 ,394	61	2 7	3 5	4.5 6.2
crin	Chicago & Eastern Ill	868 868	123,785 123,625	123,785 123,625	2,381 2,602	6,162 5,231	65.8 68.2	358,177 196	,568 ,801	28 28	**	2	6.7
East	Elgin, Joliet & Eastern1954	236 236	73,400 99,499	74,547 100,227		2,436 3,212	64.6	190,830 102,	,686 ,373	33 37	7	3	7.0
ra	Pennsylvania System1954 1953	9,906	2,656,547 2		198,564 300,528	116,713 134,253	66.0 65.4	8,128,010 3,806, 9,619,620 4,642,	879	723 ,046	308 172	384	27.1 20.1
Cen	Reading1954	1,304	313,187 362,608	316,188 369,520	10,225 17,247	12,078 14,229	62.8	957,043 496, 1,095,513 579,	133	166 170	22 24	21 25	10.0
	Western Maryland	852 873	148,941 183,646	153,865 202,298	7,318 14,855	5,734 7,077	64.0	472,232 263, 585,087 330,	735	35 84	43 28	5	2.5 4.3
ģ.	g g Chesapeake & Ohio 1954	5,063 5,034	1.315,990 1	.336,208	37,968 35,336	58,073	58.3 58.3	4,970,589 2,798,	399	320 416	67 49	173 135	30.9 22.5
Poc	Norfolk & Western1954 1953	2,110 2,113	1,318,707 1 637,389 701,448	679,469	56,685	59,491 31,392	60.2 59.1	5,045,917 2,801, 2,836,583 1,558, 3,062,054 1,659,	599	204	48 27	27 18	9.7
	Atlantic Coast Line	5,340	743,689	743,689	51,141 8,499	34,062 23,095	58.7	1,696,091 770,	574	240		7	2.8
	Central of Georgia1953	5,367 1 731	739,478 191,264	739,478 191,290	7,734 2,121	23,470 7,954	61.6 67.9	1,670 614 774 544,808 261,	160	71	**	2	2.4
non	Gulf, Mobile & Ohio	1,754 2,718	204,066 282,516	204,120 282,516	2,323 194	7,669 15,522	68.2	516,441 240, 1,040,628 490,	803	70 84		5	1.4 5.6 2.2
Region	Illinois Central	2,718 6,537	325,711 1,330,681 1		43,398	17,554 52,950 57,393	61.8	1,180,012 566, 3,893,497 1,792,	637	87 465	88	120	17.8
ELIS	Louisville & Nashville	6,537 4,716	87,099	,549,055 882,751	53,769 17,004	33,918	62.3	4,187,185 1,926, 2,527,822 1,299,	128	524 235	47	75 8	2.7
uth	Nash., Chatt. & St. Louis 1953	4,728 1,043	1,001,223 1 180,093	183,776	21,877 4,046	36,323 6,007	70.4	2,692,516 1,367, 392,798 179,	585	239 47	51	35	10.8
S	Seaboard Air Line	1,032 4,053	184,796 571,693	188,450 571,693	4,007 697	6,243 23,105	67.9 63.1	416,231 192, 1,650,532 768,	019	51 128		18	1.9
	Southern1953	4,068 6,262	570,427 961,637	570,427 961,702	658 11,953	23,046 43,420	68.3	1,627,027 742, 2,797,485 1,275,	570	135 281	7	2 4	6.6 .7 1.6
	Chicago & North Western1954	6,253 7,850	793,929	,015,301 796,026	12,694	43,721 34,186		2,815,852 1,290, 2,259,716 1,042,6		235 161	36	48	19.6
	Chicago Great Western	7,849	822,619 137,601	825,798 137,601	14,308 215	36,206 8,068	64.3 68.8	2,492,383 1,122, 537,082 244,	386	210 30	38	62	20.0 9.1
Region	Chic., Milw., St. P. & Pac1954	1,435 10,632	143,056 1.072,655 1	143,115	228 25,435	9,210 46,878	64.7 64.5	599,535 274,3 3,143,727 1,376,0	002	32 313	36	53	3.0 13.2
B. B.	Chic., St. P., Minn. & Omeha. 1953	10,661	1,169,102 1 167,585	,200,490 169,358	38,457 4,848	50,620	66.0 70.7	3,396,371 1,519, 375,941 167,3	489 : 383	363 58	17	20	10.4 25.0
atem.	Duluth, Missabe & Iron Range, 1954	1,606 567	168,008 95,358	169,953 95,786	4,597 1,081	5,947 3,787	70.4 50.7	405,690 185,3 417,628 249,0	722	57 39	16 26	20	21.5 8.5
orthwester	Great Northern	568 8,295	179,146	180,137 ,209,871	1,387 40,374	8,155 49,737	50.8 66.1	821,925 490,9 3,577,547 1,709,0	560	65 267	157	48	9.7
Vort	Minneap., St. P. & S. Ste. M 1953	8,291 4,169		357,926 401,758	40,404 4,482	54,944 13,880	63.4	4,162,930 2,029,0 887,300 420,0	023	320 102	96	43 15	9.4
Rose	Northern Pacific	4,172 6,570	410,898	414,363 948,462	4,608 39,589	14,031 38,879	69.1	909,880 434,0 2,656,019 1,220,4	059	108 319	- 5	9 55	7.7 14.5
	1953	6,582		947,652	32,657 54,208	38,755 111,098	69.7	2,632,049 1,223,9 7,393,801 2,830,7	926	324 525	8	69 25	17.2 3.8
Non	Atch., Top. & S. Fe (incl. 1954 G. C. & S. F. and P. & S. F.) . 1953 Chic., Burl. & Quincy 1954	13,095	2,634,377 2, 1,344,839 1,	677,948	75,326 38,730	115,489 56,092	65.2	7,618,489 2,886,9 3,680,078 1,565,7	925	544 301	128	43 42	6.0
Reg	Chic., Rock I. & Pac1953		1,400,683 1,		47,990 1,359	58,943 34,542	66.7	3,887,211 1,725,5 2,410,809 1,055,4	571	323 165	14	4 <u>P</u>	11.1
FEE	Denver & R. G. Wn	7,866 2,164	913,253	911,184 391,614	6,848 38,170	35,992 17,278	66.7	2,457,956 1,084,0 1,147,664 535,0	194	175 86	20	6 34	3.3
Woster	Southern Pacific	2.313		419,276	50,298 283,281	18,139 106,643		1,222,776 57 8 ,3 7,454,201 2,971,6	338	92 524	41	27 127	16.9
	Union Pacific	8,065	2,307,192 2, 2,887,130 2,	437,855	290,925 142,164	103,674 125,419	64.2	7,103,117 2,888,5 8,240,096 3,327,4	585 €	559 512	60	152 128	17.5 15.6
Central	Western Pscific	9,822 1,190	3,097,301 3, 251,343	189,556 254,009	186,184 5,652	123,044	63.6	8.598.724 3.592.1	162 6	664 41		138	16.3
	International-Gt. Northern*1954	1,190	268,102	276,735	13,062	13,081	74.2	809,562 370,7		40	6	9	16.4
	1953	1,103	156,391	127,503 156,391 141,734	222	5,428 5,713	65.7 66.0	397,040 187,7 411,794 193,9	140	45 49		i	2.0
non	Kansas City Southern	886 886	170,392	170,385	67	9,030	67.6 66.2	560,255 250,9 638,085 295,8	395	24 25		3	3.8
Region	MoKansTexas Lines1954 1953 Missouri Pacific*1954	3,229	392,035	350,444	3,828 4,347	14,167		910,177 384,6 1,017,708 428,5	62	87	49	09	06.0
bern	Texas & Pacific	6,896	985,237 1,216,596 1, 316,010	985,338 219,265	11,090	44,806 49,970 13,745	67.5 3 67.4 3	3,015,324 1,370,8 3,356,452 1,515,5 961,694 384,4	52 2	83	40	93 63	26.2 16.3
South western	St. Lovis-San Francisco1954	1,831	326,313	326,313	2,959 4,773	14,279	64.6	999.013 394.3	53	59 61	**	3	4.8
outh	1953	4,564	596,557 657,520 285,782	596,557 657,520 285,794	5,524 6,311 1,423	23,960 25,287 13,245	64.1	1,599,705 695,5 1,732,048 761,9	96 1	09 88	5	5	3.5
o ₀	St. Louis Southw. Lines 1954 1953 Texas & New Orleans 1954	1,555	312.841	312,933	4,191	14,619	75.0 73.2	790,876 353,5 893,981 399,6	22	53 59 48	21	11 2	2.4
	Texas & New Orleans	4,275	705,684 756,035	705,684 756,035	4,897 15,584	26,768 27,780	61.0 1 62.8 1	1,892,776 800,4 1,934,217 840,7		88	::	27 37	15.4 16.4

For the Month of October 1954 Compared with October 1953

			Freight	curs on line			G.t.m.per		Net ton-mi.	Net ton-mi.	Car- miles	Net daily	Train- miles	Miles
	Region, Road and Year				Cent	exct.locos.	excl.locos.	per train-	per l'd car-	per car-	per car-	ton-mi.	per train-	loco. per
-	. 5 (Boston & Maine1954	Home 2,432	Foreign 7.916	Total 10,348	B.O. 5.2	tenders 36,820	tenders 2,301	mile 961	mile 26.6	day 758	day 41.9	roed-mi. 4,641	hour 16.0	day 120.0
Z	953 N. Y., N. H. & Hud1954	1,745 2,768	7,916 13,854	9,661 16,622	1.6 3.3	39,471 42 781	2,429 2,751	1,001 1,142	25.8 25.1	847 567	47.8 32.5	5,028 5,298	16.3 15.6	123.2 113.0
	1953 Delaware & Hudson1954	2,239 5,980	14,289	16,528 10,069	6.1	39,804 64,163	2,432 3,475	1,025 1,770	25.9 35.4	637 1,049	35.7 44.5	5,952 13,848	16.4 18.5	131.1 166.8
	Del., Leck. & Western1953	4,880 7,299	4,986 9,843	9,866 17,142	6.6	63,505 49,929	3,380 3,011	1,806 1,320	36.5 28.3	1,264	48.1 34.1	15,427 11,531	18.9 16.9	164.0 164.4
u u	1953	6,456 12,173	10,625 16,823	17,081 28,996	3.9	49,943 67,534	2,999 3,545	1,340 1,389	28.9 23.5	710 884	35.3 53.7	12,257 11,422	17.0 19.2	174.4 129.3
Region	Grand Trunk Western1953	7,989 4,089	19,599 8,169	27,588 12,258	3.4 6.4	65,946 51,362	3,524 2,471	1,401 1,021	24.1	1,054 652	62.5 36.2	12,893 8,192	18.9	142.0 107.5
	Lehigh Velley1953	3,589 8,690	8,207 8,078	11,796 16,768	5.2	48,067 69,201	2,251 3,539	918 1,590	28.0 29.9	651 637	37.6 32.0	8,107 9,393	21.4	120.4 224.5
Lakes	New York Central	6,947 77,390	9,881 77,805	16,828 155,195	4.2 11.5	65,202 51,563	3,445 3,029	1,576 1,337	31·4 31.6	718 642	34.9 33.5	10,261 9,333	19.2 17.3	252.9 106.7
rest;	New York, Chic. & St. L 1953	68,553 9,547	95,792 15,729	164,345 25,276	9.8	49,163 50,557	2,939 2,866	1,307 1,287	31.9 30.7	689 1,158	35.2 56.8	10,578 13,354	17.0 18.0	112.9 118.9
5	Pitts. & Lake Erie1953	7,327 9,673	18,275 5,100	25,602 14,773	5.5 9.8	49,618 59,678	2,785 4,172	1,257 2,501	31.0 53.1	1,254 285	60.6 8.8	14,707 19,448	18.1 14.4	114.3 77.4
	Wabash1953	$3,588 \\ 8,486$	9,246 $10,769$	12,834 19,255	5.4 9.3	59,009 63,877	3,856 2,965	$\frac{2,360}{1,202}$	52.2 25.7	466 988	13.4 55.5	26,931 7,962	15.3 21.7	85.0 166.3
	Baltimore & Ohio	8,058 56,941	12,603	20,661 99,057	8.6	63,460 48,142	2,845 3,170	1,128 1,518	25.4 36.0	1,061 743	62.4 32.9	8,993 11,822	22.5 15.4	144.3 100.2
110	Bessemer & Lake Erie 1953	52,905 5,857	48,831 715	101,736 6,572	4.8 17.6	47,367 91,652	3,201 6,345	1,570 4,167	36.7 74.8	829 851	35.3 17.6	13,753 27,464	15.0 14.8	111.3 115.6
Region	Central RR Co. of New Jersey 1954	6,116 5,444	2,297 9,883	8,413 15,327	9.2 12.0	101,136 39,099	6,851 2,912	4,466 1,480	75.1 37.2	1,101 397	23.3 16.1	40,597 9,476	15.1 14.0	75.7 94.0
	Chicago & Eastern Ill1953	$\frac{3,866}{2,777}$	9,615 3,382	13,481 6,159	10.3 9.6	39,655 46,638	3,081 2,908	1,627 1,596	38.6 31.9	489 979	18.6 46.6	10,826 7,305	13.5 16.1	81.8 153.0
bastern	Elgin, Joliet & Eastern1954	2,588 7,517	$\frac{3,937}{6,487}$	6,525 14,004	6.5 7.6	45,183 $22,538$	2,876 2,700	1,415 $1,453$	33.2 42.2	910 246	40.2 9.0	6,459 14,036	15.8 8.7	150.0 75.2
	Pennsylvania System1953	6,836 116,180	11,192 87,517	18,028 203,697	5.1 13.0	20,957 $53,885$	2,722 3,144	1,466 1,473	42.8 32.6	248 604	9.1 28.1	18,777 $12,397$	8.2 17.6	$\frac{104.2}{75.4}$
lentral.	Rending1954	109,523 $18,727$	96,680 14,708	206,203 33,435	7.4	51,619 44,175	3,136 3,057	1,514 1,585	34.6 41.1	734 478	32.4 18.5	15,067 12,273	17.0 14.5	85.9 63.3
_	Western Maryland	15,365 6,339	18,191 2,874	33,556 9,213	6.2	41,855 45,017	3,023	1,599 1,802	40.7	554 895	21.0 30.4	14,282 9,985	13.9 14.2	71.1
	1953	5,921 53,913	3,630 25,775	9,551 79,688	4.5	45,405 70,716	3,252 3,796	1,839 2,137	46.8 48.2	1,208	40.4	12,229 17,830	14.3	65.4 84.5
Poca	Norfolk & Western 1954	51,279 34,613	25,503 7,271	76,782 41,884	2.7	63,900 77,511	3,840 4,562	2,132 2,507	47.1 49.6	1,185 1,154	43.1 38.6	17,951 23,828	18.0 17.4	80.6 92.8
	Atlantic Coast Line	32,636 20,278	7,701 14,245	40,337 34,523	2.9	75,662 40,531	4,443 2,291	2,408 1,041	48.7 33.4	710	45.6 36.3	25,336 4,655	17.3 17.8	103.1
	Central of Georgia	$17,386 \\ 3,109$	17,465 6,287	34,851 9,396	5.1	38,818 48,827	2,270 2,857	$\frac{1,052}{1,370}$	$\frac{33.0}{32.8}$	745 928	36.6 41.6	4,655 4,867	17.2 17.1	108.6 93.9
IO.	Gulf, Mohile & Ohio	2,880 5,213	5,583 9,962	8,463 15,175	2.8	44,675 71,227	2,541 3,690	1.181	31.3 31.6	936 1,043	43.8 47.6	4,415 5,825	17.7 19.3	101.5 110.7
Regio.	Illinois Central	4,604 26,918	27,231	16,138 54,149	2.8	69,691 46,972	3,637 2,960	1,745	32.3	1,148	51.2 51.1	6,719 8,846	19.2	127.1 72.5
Pern	Louisville & Neshville	27,732 31,936 33,820	31,580 12,769 14,095	59,312 44,705 47,915	2.6 3.9 3.5	44,645 49,566 45,458	2,754 2,886 2,697	1,267 1,483 1,370	33.6 38.3 37.7	1,053 913 932	50.4 37.7 39.2	9,509 8,886	16.5 17.2	86.2 108.4
Southern	Nash., Chatt. & St. Louis1954 1953	3,544 1,987	3,323 4,177	6,867 6,164	3.7	42,700 41,317	2,188	1,000	29.9 30.8	836 934	39.7 44.6	9,331 5,554 6,019	16.9 19.6 18.3	115.0 122.4 127.6
92	Seeboard Air Line	13,725 11,730	13,663 13,720	27,388 25,450	3.4	52,018 50,753	2,933 2,882	1,365	33.2 32.2	940 957	44.8 46.5	6,113 5,889	18.0 17.8	148.9
	Southern	18,877 16,967	25,668 28,173	44,545 45,140	4.5 3.0	50,679 47,788	2,922 2,791	1,332 1,279	29.4 29.5	941 922	46.9 45.4	6,571 6,658	17.4 17.2	121.9 151.1
	Chicago & North Western 1954 1953	18,857 18,564	27,553 30,802	46,410 49,366	5.5 5.4	48,657 50,365	2,953 3,126	1,363 1,408	30.5 31.0	688 706	33.9 35.4	4,285 4,613	17.1	112.9
TI.	Chicago Great Western	1,912	3,872 4,635	5,784 6,092	3.3	74,917 77,190	3,909 4,196	1,778 1,920	30.3 29.8	1,355 1,495	65.1 70.8	5,484 6,168	16.6 19.2 18.4	95.3 140.9 147.0
Region	Chic., Milw., St. P. & Pec1954 1953	34,244 31,366	29,833 31,365	64,077 62,731	6.4	53,064 50,698	2,944	1,288	29.4 30.0	674	35.6	4,175 4,598	18.1 17.5	96.9 102.6
rn F	Chic., St. P., Minn. & Omaha 1954 1953	1,172 1,207	7,577 7,471	8,749 8,678	3.9	31,486 34,181	2,305 2,447	1,026 1,120	29.4 31.2	594 675	28.6 30.7	3,362 3,730	14.0	78.7 65.6
Northwestern	Duluth, Missabe & Iron Range 1954 1953	14,599 14,936	568 636	15,167 15,572	2.2	75,891 84,326	4,625 4,835	2,758 2,886	65.8 60.2	530 1,010	15.9 33.1	14,168 27,860	17.3 18.4	49.3 95.8
rthy	Great Northern	$\frac{22,292}{22,337}$	$\frac{22,993}{26,728}$	45,285 49,065	2.3 3.0	53,075 51,706	3,005 3,113	1,436 1,517	34.4 36.9	1,186 1,345	52.2 57.5	6,646 7,894	17.9 16.8	93.5 107.3
Š	Minnesp., St. P. & S. Ste. M1954 1953	7,353 6,846	7,465 7,536	14,818 $14,382$	4.8 6.0	44,519 43,881	2,248 2,219	1,064 $1,058$	30.3 30.9	910 945	43.2 44.3	3,250 3,356	20.0 19.8	$121.1 \\ 123.3$
	Northern Pacific	19,834 18,905	17,064 $16,572$	36,898 35,477	4.4	51,718 $52,308$	2,914 2,894	1,339 1,346	31.4 31.6	1,016 1,071	47.1 48.7	5,992 5,998	17.9 18.2	91.5 86.0
u(Atch., Top. & S. Fe (incl. 1954 G. C. & S. F. and P. & S. F.) 1953	56,754 46,037	$30,849 \\ 35,327$	87,603 81,364	3.6 3.1	68,412 64,976	$3,050 \\ 2,904$	1,168 $1,100$	25.5 25.0	1,055 1,148	$63.1 \\ 70.4$	6,983 7,112	22.5 22.5	133.6 131.4
Region	Chic., Burl. & Quincy	18,681 19,648	27,067 $26,120$	45,748 45,768	2.6	54,650 53,178	2,743 2,782	1,167 1,235	27.9 29.3	1,096 1,235	60.2 63.2	5,724 6,302	20.0 19.2	137.7 131.7
	Chic., Rock I. & Pac	12,797 $11,447$	17,722 20,733	30,519 $32,180$	6.2 4.1	52,730 51,294	2,771 2,699	1,213 1,190	30.6 30.1	1,117 1,078	55.7 53.7 51.1	4,306 4,446	19.1 19.1	169.7 174.9
este.	Denver & R. G. Wn	8,087 6,905	6,848 7,989	14,935 14,894	3.7 2.5	57,206 55,199	3,142 3,188	1,465 1,508	31.0 31.9	1,142 1,230	54.1	7,976 8,066	18.2 17.4	$106.4 \\ 103.9$
Central Western	Southern Pacific	32,495 $29,701$	41,675 43,090	74,170 72,791	1.9 2.3	57,348 54,333	3,176 3,104	1,266 1,262	27.9 27.9	1,271 1,257	72.0 70.3	11,889 11,554	18.2 17.6	123.4 109.4
entr	Union Pacific	32.773 29,649	36,636	69,409 68,726	2.5 2.2 3.5	72,523 66,683	2,882 2,807	1,164	26.5 29.2 27.6	1,528	87.3 90.3	10,935 11,798	25.4 24.0	125.2 134.5
0	Western Pacific	2,289 2,343	3,260 3,415	5,549 5,758	5.8	76,789 73,791	3,000 3,035	1,326 1,390	28.3	1,873 2,026	95.4 96.3	9,007 10,051	25.7 24.4	193.8 177.6
Southwestern Region	International-Gt. Northern*1954	876 793	5,520 5,732	6,396 6,525	3.1	60,962 53,114	3,118 2,638	1,475	34.6 33.9	947 963	41.6	5,492 5,667	19.6 20.2	97.9 105.0
	Kansas City Southern	1,009 749 4,144	6,131 6,612 5,970	7,140 7,361 10,114	3.7 2.1 10.3	83,708 78,111 55,229	3,973 3,765 2,603	1,780 1,746 1,100	31.2 32.8 27.1	1,145 1,378 1,190	54.2 63.5 68.0	9,138 10,773 3,842	21.2 20.9 21.3	185.8 230.4
	MoKansTexas Lines 1954 1953 Missouri Pacific*	3,843 18,975	7,451 21,765	11,294 40,740	4.3	52,715 65,992	2,601 3,070	1,095 1,396	27.2 30.6	1,249 1,138	69.6 55.1	4,280 6,412	20.3 21.6	143.5 148.5 96.5
	1953 Texas & Pacific	15,816 2,983	19,229 6,390	35,045 9.373	7.2 2.7 3.7	58,863 67,663	2,769 3,056	1,250 1,222	30.3 28.0	1,397	68.4 73.2	7,068 6,806	21.3 22.2	109.3 181.8
	1953 St. Louis-San Francisco	2,525 11,753	7,573 10,532	10,098 22,285	4.2	63,970 51,782	3,072 2,687	1,213 1,169	27.6 29.0	1,282	71.9 51.8	6,948 4,916	20.9 19.3	189.5 185.4
outh	St. Louis Southw. Lines	10,989	13,432 4,945	24,421 7,335	3.7 1.7	45,157 53,175	2,640 2,770	1,162 1,238	30.1 26.7	999	51.8 79.4	5,386 7,334	17.1 19.2	122.6 145.1
of i	1953 Tevas & New Orleans	1,962 6,345	5,335 14,417	7,297 20,762	1.8	53,134 54,877	2,862 2,698	1,279	27.3 29.9	1,827	91.3 64.6	8,290 6,040	18.6 20.5	134.4
	1953	5,650	17,032	22,682	1.3	49,690	2,576	1,120	30.3	1,215	63.9	6,339	19.4	120.8

*Report of trustee or trustees.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

STUDY YOUR SIDINGS

to improve train operation

Lights on the control machine show the operator the progress being made by each train. He controls the signals to direct trains to keep moving for close meets and passes, frequently made non-stop.





IN THIS C&O cTc INSTALLATION

- Trains are kept moving while making meets.
- Starting trains are favored—not handicapped by a grade.
- Local freight trains work on sidings, clear of the main track.
- About 1/4 hour is saved in making a move from one siding to the next.
- Cost of maintenance is reduced by the elimination of 15 main-track switches.

The Chesapeake & Ohio Railway Co. modernized 133 miles by relocating and extending sidings, reducing the number from 25 to 13, and installing G-R-S Centralized Traffic Control. Results proved that the planned program was justified.

Longer and fewer sidings—with G-R-S cTc—will save train time and increase track capacity. Our engineers will be glad to make a study of your operation. Just call your G-R-S district office.

2725

